REMEDIAL SITE ASSESSMENT DECISION - EPA REGION IV

EPA ID: ALSFN0407157 **Site Name:** L & N RAILROAD DEPOT **State ID:**

Alias Site Names:

City: ANNISTON **County or Parish:** CALHOUN **State:** AL

Refer to Report Dated: **Report Type:** PRELIMINARY ASSESSMENT 001

Report Developed by: STATE

DECISION:

- [ ] **1. Further Remedial Site Assessment under CERCLA (Superfund) is not required because:**
  - [ ] **1a. Site does not qualify for further remedial site assessment under CERCLA (No Further Remedial Action Planned - NFRAP)**
  - [ ] **1b. Site may qualify for action, but is deferred to:**
- [x] **2. Further Assessment Needed Under CERCLA:**
  - **2a. Priority:** [ ] **Higher** [x] **Lower**
  - **2b. Other: (recommended action)** Low

DISCUSSION/RATIONALE:

PCB and lead contamination found on-site.

Site: L+N

Break: 1.8

Other: V.2

10587875

Site Decision Made by: ANNIE GODFREY

Signature: Annie M. Godfrey **Date:** 09/18/2000

EPA Form # 9100-3

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SITE: L+N
BREAK: 1.7
OTHER: v.1

EPA POTENTIAL HAZARDOUS WASTE SITE PRELIMINARY ASSESSMENT FORM	*Identification*
	State: ALA. — CERCLIS NUMBER: 7157
	CERCLIS Discovery Date: May 1, 2000

1. General Site Information

Name: L & N Railroad Depot	Street Address: 1200 Walnut Avenue				
City: Anniston	State: Alabama	Zip Code: 36201	County: Calhoun	Co. Code:	Cong. Dist:

Latitude: 33° 39' 37"	Longitude: 85° 50' 04"	Approximate Area of Site: ≅7 Acres; _____ Square Feet	Status of site: ☐ Active ☒ Inactive ☐ Not Specified ☐ NA

2. Owner/Operator Information

Owner: Jimmy W. & C. Ann Stephenson	Operator: N/A
Street Address: 11 Robinwood Lane	Street Address:
City: Anniston	City:
State: AL; Zip Code: 36207; Telephone: (256) -	State: ; Zip Code: ; Telephone: ( ) -

Type of Ownership:
- ☒ Private
- ☐ Federal Agency Name:
- ☐ State
- ☐ Indian
- ☐ Country
- ☐ Municipal
- ☐ Not Specified
- ☐ Other

How Initially Identified:
- ☐ Citizen Complaint
- ☐ PA Petition
- ☒ State/Local Program
- ☐ RCRA/CERCLA Notification
- ☐ Federal Program
- ☐ Incidental
- ☐ Not Specified
- ☐ Other

3. Site Evaluator Information

Name of Evaluator: Lawrence A. Norris	Agency/Organization ADEM	Date Prepared: September 7, 2000
Street Address: 1400 Coliseum Blvd.	City: Montgomery	State: Alabama
Name of EPA or State Agency Contact: Ms. Annie Godfrey	Street Address: Sam Nunn Atlanta Federal Bldg. 61 Forsyth St. SW	
City: Atlanta	State: GA	Telephone: (404) 562-8919

4. Site Disposition (for EPA use only)

Emergency Response/Removal Assessment Recommendation: ☐ Yes ☐ No Date:	CERCLIS Recommendation: ☐ Higher Priority SI ☐ Lower Priority SI ☐ NFRAP ☐ RCRA ☐ Other Date:	Signature: Name (typed): Position:

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5. General Site Characteristics

Predominant Land Use Within 1 Mile of Site (check all that apply):

- [x] Industrial
- [x] Commercial
- [x] Residential
- [ ] Forest/Fields
- [ ] Agriculture
- [ ] Mining
- [ ] DOD
- [ ] DOE
- [ ] DOI
- [ ] Other Federal Facility
- [ ] Other

Site Setting:

- [ ] Urban
- [ ] Suburban
- [ ] Rural

Years of Operation:
Beginning Year 1872
Ending Year

- [x] Unknown

Type of Site Operations (check all that apply):

- [ ] Manufacturing (must check subcategory)
  - [ ] Lumber and Wood Products
  - [ ] Inorganic Chemicals
  - [ ] Plastic and/or Rubber Products
  - [ ] Paints, Varnish
  - [ ] Industrial Organic Chemicals
  - [ ] Agricultural Chemicals (e.g., pesticides, fertilizers)
  - [ ] Miscellaneous Chemical Products (e.g., adhesives, explosives, ink)
  - [ ] Primary Metals
  - [ ] Metal Coating, Plating, Engraving
  - [ ] Metal Forging, Stamping
  - [ ] Fabricated Structural Metal Products
  - [ ] Electronic Equipment
  - [x] Other Manufacturing
- [ ] Mining
  - [ ] Metals
  - [ ] Coal
  - [ ] Oil and Gas
  - [ ] Non-metallic Minerals
- [ ] Retail
- [ ] Recycling
- [ ] Junk/Salvage Yard
- [ ] Municipal Landfill
- [ ] Other Landfill
- [ ] DOD
- [ ] DOE
- [ ] DOI
- [ ] Other Federal Facility
- [ ] RCRA
  - [ ] Treatment, Storage, or Disposal
  - [ ] Large Quantity Generator
  - [ ] Small Quantity Generator
  - [ ] Subtitle D
    - [ ] Municipal
    - [ ] Industrial
  - [ ] "Converter"
  - [ ] "Protective Filer"
  - [ ] "Non- or Late Filer"
- [ ] Not specified
- [ ] Other

Waste Generated:

- [x] Onsite
- [ ] Offsite
- [ ] Onsite and Offsite

Waste Deposition Authorized By:

- [ ] Present Owner
- [x] Former Owner
- [ ] Present & Former Owner
- [ ] Unauthorized
- [ ] Unknown

Waste Accessible to the Public:

- [x] Yes
- [ ] No

Distance to Nearest Dwelling, School, or Workplace:

1400 Feet

6. Waste Characteristics information

Source Type: (check all that apply) — **Source Waste Quantity:** (include units) — **Tier*:**

- [ ] Landfill
- [ ] Surface Impoundment
- [ ] Drums
- [ ] Tanks and Non-Drum Containers
- [ ] Chemical Waste Pile
- [ ] Scrap Metal or Junk Pile
- [ ] Tailings Pile
- [ ] Trash Pile (open dump)
- [ ] Land Treatment
- [ ] Contaminated Ground Water Plume (unidentified source)
- [x] Contaminated Surface Water / Sediment (unidentified source) — 3.4 million ft2
- Contaminated Soil
- [ ] Other
- [ ] No Source

General Types of Waste (check all that apply)

- [x] Metals
- [x] Organics
- [ ] Inorganics
- [ ] Solvents
- [ ] Paint/Pigment
- [ ] Laboratory / Hospital Waste
- [ ] Radioactive Waste
- [ ] Construction / Demolition Waste
- [ ] Pesticides / Herbicides
- [ ] Acids / Bases
- [ ] Oily Waste
- [ ] Municipal Waste
- [ ] Mining Waste
- [ ] Explosives
- [ ] Other

Physical State of Waste Deposited (check all that apply):

- [x] Solid
- [ ] Liquid
- [ ] Sludge
- [ ] Gas
- [ ] Powder

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CERCLIS Number: 7157

7. Ground Water Pathway

Is Groundwater Used for Drinking Water within 4 Miles:
- [x] Yes
- [ ] No

Type of Drinking Water Wells Within 4 Miles (check all that apply):
- [ ] Municipal
- [x] Private
- [ ] None

Depth to Shallowest Aquifer:
0-25 Feet

Karst Terrain/Aquifer Present:
- [x] Yes
- [ ] No

Is there a suspected Release to Ground Water:
- [x] Yes
- [ ] No

Have Primary Target Drinking Water Wells Been Identified:
- [ ] Yes
- [x] No

If Yes, Enter Primary Target Population:

Nearest Designated Wellhead Protection Area:
- [ ] Underlies Site
- [ ] > 0-4 Miles
- [x] None Within 4 Miles

List secondary Target Population Served by Groundwater Withdrawn From:

0 - 1/4 Mile	
>1/4 - 1/2 Mile	
>1/2 - 1 Mile	
>1 - 2 Mile	
>2 - 3 Mile	860
>3 - 4 Mile	
Total Within 4 Miles	860

8. Surface Water Pathway

Typed of Surface Water Draining Site and 15 Mile Downstream (check all that apply):
- [x] Stream
- [ ] River
- [ ] Pond
- [ ] Lake
- [ ] Bay
- [ ] Ocean
- [ ] Other _____

Shortest Overland Distance From Any Source to Surface Water:
25 Feet
_____ Miles

Is the a Suspected Release to Surface Water:
- [x] Yes
- [ ] No

Site is Located in:
- [ ] Annual - 10 yr Floodplain
- [x] >10 yr - 100 yr Floodplain
- [ ] >100 yr - 500 yr Floodplain
- [ ] > 500 yr Floodplain

Drinking Water Intake Located Along the Surface Water Migration Path:
- [ ] Yes
- [x] No

Have Primary Target Drinking Water Intakes Been Identified:
- [ ] Yes
- [x] No

If Yes, Enter Population Served by Primary Target Intakes: _____ People

List All Secondary Target Drinking Water Intakes:

Name	Water Body	Flow (cfs)	Population Served
	Total Within 15 Miles		

Fisheries Located Along the Surface Water Migration Path:
- [x] Yes
- [ ] No

Have Primary Targets Been Identified:
- [x] Yes
- [ ] No

List All Secondary Target Fisheries:

Water Body/Fishery Name	Flow (cfs)

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CERCLIS Number: 7157

8. Surface Water Pathway (continued)

Wetlands Located Along the Surface Water Migration Pathway:
☐ Yes
☒ No

Have Primary Target Wetlands Been Identified:
☐ Yes
☒ No

List Secondary Target Wetlands:

Water Body	Flow (cfs)	Frontage Miles

Other Sensitive Environments Located Along the Surface Water Migration Pathway:
☒ Yes
☐ No

Have Primary Targets Sensitive Environments Been Identified:
☒ Yes
☐ No

List Secondary Target Sensitive Environments:

Water Body	Flow (cfs)	Sensitive Environment Type

9. Soil Exposure Pathway

Are People Occupying Residence or Attending School or Daycare on or within 200 Feet of Areas of Known or Suspected Contamination:
☒ Yes
☐ No

If Yes, Enter Total Resident Population:
101 People

Number of Workers Onsite:
☒ None
☐ 1 - 100
☐ 101 - 1,000
☐ >1,000

Have Terrestrial Sensitive Environments Been Identified on or Within 200 Feet of Areas of Known or Suspected Contamination:
☐ Yes
☒ No

If Yes, List Each Terrestrial Sensitive Environment:

10. Air Pathway

Is there a Suspected Release to Air:
☐ Yes
☒ No

Enter Total Population on or Within:

Onsite	
0 - 1/4 Mile	496
>1/4 - 1/2 Mile	1976
>1/2 - 1 Mile	4909
>1 - 2 Mile	11332
>2 - 3 Mile	9859
>3 - 4 Mile	11007
Total Within 4 Miles	39083

Wetlands Located Within 4 Miles of the Site:
☐ Yes
☒ No

Other Sensitive Environments Located Within 4 Miles of the Site:
☐ Yes
☒ No

List All Sensitive Environments Within 1/2 Mile of the Site:

Distance	Sensitive Environment Type/Wetlands Area (acre)
Onsite	
0 - 1/4 Mile	
> - 1/4 - 1/2 Mile	

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****** CONFIDENTIAL ******
******PRE-DECISIONAL DOCUMENT ******
****** SUMMARY SCORESHEET ******
****** FOR COMPUTING PROJECTED HRS SCORE ******

****** Do Not Cite or Quote ******

Site Name: L & N Railroad Depot
City, County, State: Anniston, Calhoun AL
EPA ID#: 000009636310
Lat/Long: 33d39m40.02s / 85d50m02.25s
Congressional District:
This Scoresheet is for: Other
Scenario Name: Reassessment
Description:

Region: 4
Evaluator: D. Hendrix
Date: 5/7/2009
T/R/S:

	S pathway	S^2 pathway
Ground Water Migration Pathway Score (S_{gw})	0.44	0.1936
Surface Water Migration Pathway Score (S_{sw})	6.38	40.7044
Soil Exposure Pathway Score (S_s)	0.38	0.1444
Air Migration Score (S_a)	0.136586666666667	0.0186559175111112
$S^2_{gw} + S^2_{sw} + S^2_s + S^2_a$		41.0610559175111
$(S^2_{gw} + S^2_{sw} + S^2_s + S^2_a)/4$		10.2652639793778
$\sqrt{(S^2_{gw} + S^2_{sw} + S^2_s + S^2_a)/4}$		3.2

* Pathways not assigned a score (explain):

10953698

TABLE 3-1 --GROUND WATER MIGRATION PATHWAY SCORESHEET			
Factor categories and factors	Maximum Value	Value Assigned	
Aquifer Evaluated:			
Likelihood of Release to an Aquifer:			
1. Observed Release	550	0	
2. Potential to Release:			
2a. Containment	10	10	
2b. Net Precipitation	10	6	
2c. Depth to Aquifer	5	5	
2d. Travel Time	35	25	
2e. Potential to Release [lines 2a(2b + 2c + 2d)]	500	360	
3. Likelihood of Release (higher of lines 1 and 2e)	550		360
Waste Characteristics:			
4. Toxicity/Mobility	(a)	10000	
5. Hazardous Waste Quantity	(a)	1	
6. Waste Characteristics	100		10
Targets:			
7. Nearest Well	(b)	0	
8. Population:			
8a. Level I Concentrations	(b)	0	
8b. Level II Concentrations	(b)	0	
8c. Potential Contamination	(b)	0	
8d. Population (lines 8a + 8b + 8c)	(b)	0	
9. Resources	5	5	
10. Wellhead Protection Area	20	5	
11. Targets (lines 7 + 8d + 9 + 10)	(b)		10
Ground Water Migration Score for an Aquifer:			
12. Aquifer Score [(lines 3 x 6 x 11)/82,5000][c]	100		0.436363636363636
Ground Water Migration Pathway Score:			
13. Pathway Score (S_{gw}), (highest value from line 12 for all aquifers evaluated)[c]	100		0.436363636363636

[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] Do not round to nearest integer

TABLE 4-1 --SURFACE WATER OVERLAND/FLOOD MIGRATION COMPONENT SCORESHEET	Maximum Value	Value Assigned	
Factor categories and factors			
Watershed Evaluated:			
Drinking Water Threat			
Likelihood of Release:			
1. Observed Release	550	0	
2. Potential to Release by Overland Flow:			
2a. Containment	10	10	
2b. Runoff	10	1	
2c. Distance to Surface Water	5	25	
2d. Potential to Release by Overland Flow [lines 2a(2b + 2c)]	35	260	
3.Potential to Release by Flood:			
3a. Containment (Flood)	10	10	
3b. Flood Frequency	50	0	
3c. Potential to Release by Flood (lines 3a x 3b)	500	0	
4. Potential to Release (lines 2d + 3c, subject to a maximum of 500)	500	260	
5. Likelihood of Release (higher of lines 1 and 4)	550		260
Waste Characteristics:			
6. Toxicity/Persistence	(a)	10000	
7. Hazardous Waste Quantity	(a)	1	
8. Waste Characteristics	100		10
Targets:			
9. Nearest Intake	50	0	
10. Population:			
10a. Level I Concentrations	(b)	0	
10b. Level II Concentrations	(b)	0	
10c. Potential Contamination	(b)	0	
10d. Population (lines 10a + 10b + 10c)	(b)	0	
11. Resources	5	5	
12. Targets (lines 9 + 10d + 11)	(b)		5
Drinking Water Threat Score:			
13. Drinking Water Threat Score [(lines 5x8x12)/82,500, subject to a max of 100]	100		0.16
Human Food Chain Threat			
Likelihood of Release:			
14. Likelihood of Release (same value as line 5)	550		260
Waste Characteristics:			
15. Toxicity/Persistence/Bioaccumulation	(a)	500000000	
16. Hazardous Waste Quantity	(a)	1	
17. Waste Characteristics	1000		100
Targets:			
18. Food Chain Individual	50	10	
19. Population			
19a. Level I Concentration	(b)	0	
19b. Level II Concentration	(b)	0	
19c. Potential Human Food Chain Contamination	(b)	0.003	
19d. Population (lines 19a + 19b + 19c)	(b)	0	
20. Targets (lines 18 + 19d)	(b)		10
Human Food Chain Threat Score:			
21. Human Food Chain Threat Score [(lines 14x17x20)/82500, subject to max of 100]	100		3.15
Environmental Threat			
Likelihood of Release:			
22. Likelihood of Release (same value as line 5)	550		260
Waste Characteristics:			
23. Ecosystem Toxicity/Persistence/Bioaccumulation	(a)	500000000	
24. Hazardous Waste Quantity	(a)	1	
25. Waste Characteristics	1000		100

Targets:			
26. Sensitive Environments			
26a. Level I Concentrations	(b)	0	
26b. Level II Concentrations	(b)	0	
26c. Potential Contamination	(b)	9.75	
26d. Sensitive Environments (lines 26a + 26b + 26c)	(b)	9.75	
27. Targets (value from line 26d)	(b)		9.75
Environmental Threat Score:			
28. Environmental Threat Score [(lines 22x25x27)/82,500 subject to a max of 60]	60		3.07
Surface Water Overland/Flood Migration Component Score for a Watershed			
29. Watershed Score[c] (lines 13+21+28, subject to a max of 100}	100		6.38
Surface Water Overland/Flood Migration Component Score			
30. Component Score (S_{sw})[c] (highest score from line 29 for all watersheds evaluated)	100		6.38

[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] Do not round to nearest integer

TABLE 5-1 --SOIL EXPOSURE PATHWAY SCORESHEET			
Factor categories and factors	Maximum Value	Value Assigned	
Likelihood of Exposure:			
1. Likelihood of Exposure	550		550
Waste Characteristics:			
2. Toxicity	(a)	10000	
3. Hazardous Waste Quantity	(a)	1	
4. Waste Characteristics	100		10
Targets:			
5. Resident Individual	50	0	
6. Resident Population:			
6a. Level I Concentrations	(b)	0	
6b. Level II Concentrations	(b)	0	
6c. Population (lines 6a + 6b)	(b)	0	
7. Workers	15	0	
8. Resources	5	5	
9. Terrestrial Sensitive Environments	(c)	0	
10. Targets (lines 5 + 6c + 7 + 8 + 9)	(b)		5
Resident Population Threat Score			
11. Resident Population Threat Score (lines 1 x 4 x 10)	(b)		27500
Nearby Population Threat			
Likelihood of Exposure:			
12. Attractiveness/Accessibility	100	50	
13. Area of Contamination	100	40	
14. Likelihood of Exposure	500		50
Waste Characteristics:			
15. Toxicity	(a)	10000	
16. Hazardous Waste Quantity	(a)	1	
17. Waste Characteristics	100		10
Targets:			
18. Nearby Individual	1	1	
19. Population Within 1 Mile	(b)	6.6	
20. Targets (lines 18 + 19)	(b)		7.6
Nearby Population Threat Score			
21. Nearby Population Threat (lines 14 x 17 x 20)	(b)		3800
Soil Exposure Pathway Score:			
22. Pathway Score[d] (S_s), [lines (11+21)/82,500, subject to max of 100]	100		0.38

[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] No specific maximum value applies to factor. However, pathway score based solely on terrestrial sensitive environments is limited to a maximum of 60
[d] Do not round to nearest integer

TABLE 6-1 --AIR MIGRATION PATHWAY SCORESHEET			
Factor categories and factors	Maximum Value	Value Assigned	
Likelihood of Release:			
1. Observed Release	550	0	
2. Potential to Release:			
2a. Gas Potential to Release	500	0	
2b. Particulate Potential to Release	500	286	
2c. Potential to Release (higher of lines 2a and 2b)	500	286	
3. Likelihood of Release (higher of lines 1 and 2c)	550		286
Waste Characteristics:			
4. Toxicity/Mobility	(a)	0.0008	
5. Hazardous Waste Quantity	(a)	1	
6. Waste Characteristics	100		1
Targets:			
7. Nearest Individual	50	7	
8. Population:			
8a. Level I Concentrations	(b)	0	
8b. Level II Concentrations	(b)	0	
8c. Potential Contamination	(c)	27.4	
8d. Population (lines 8a + 8b + 8c)	(b)	27.4	
9. Resources	5	5	
10. Sensitive Environments:			
10a. Actual Contamination	(c)	0	
10b. Potential Contamination	(c)	0	
10c. Sensitive Environments (lines 10a + 10b)	(c)	0	
11. Targets (lines 7 + 8d + 9 + 10c)	(b)		39.4
Air Migration Pathway Score:			
12. Pathway Score (S_a) [(lines 3 x 6 x 11)/82,500][d]	100		0.136586666666667

[a] Maximum value applies to waste characteristics category
[b] Maximum value not applicable
[c] No specific maximum value applies to factor. However, pathway score based solely on sensitive environments is limited to a maximum of 60.
[d] Do not round to nearest integer

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SITE: L&N
BREAK: 11.8
OTHER: V.3

PA Scoresheets

This Online Form Was Created By
The Alabama Department of Environmental Management
Site Assessment Unit

Site Name: L & N Railroad Depot	Investigator: Lawrence A. Norris
CERCLIS ID No.: 7157	Agency/Organization: ADEM
Street Address: 1200 Walnut Avenue	Street Address: 1400 Coliseum Boulevard
City/State/Zip: Anniston, Alabama 36201	City/State/Zip: Montgomery,Alabama 36110
Date: September 8, 2000	

GENERAL INFORMATION

Site Description and Operational History:

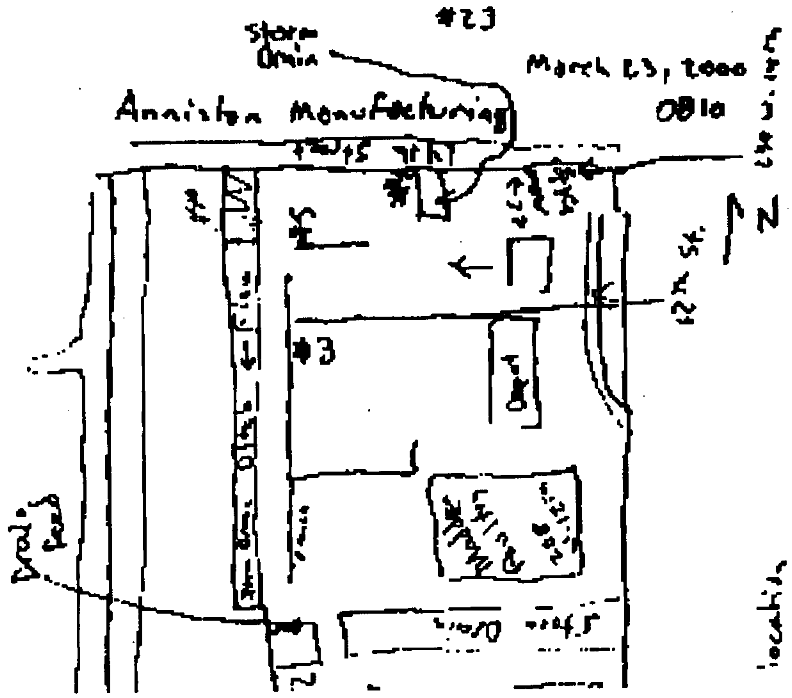
The L & N Railroad Depot site is located at 1200 Walnut Avenue in the city of Anniston, Alabama. The L & N Railroad Depot site consists of two. The main depot building is in a state of disrepair except for the roof, which appears to have been recently replaced. Tax records indicate that a Mr. Jimmy W. Stephenson and a Ms. C. Ann Stephenson own this part of the site. Just to the south is the old freight warehouse building. Presently, this building has been restored and is in use as office space. It is presently owned by the Julian W. Jenkins. Two architectural firms; Arris, Inc., and Jenkins, Monroe, & Jenkins operate out of the old freight warehouse building. Vegetation on site did not appear to be stressed at the time of the inspection. Railroad tracks and an unnamed tributary of Snow Creek run parallel to the western border of the site. The unnamed tributary of Snow Creek flows directly into Snow Creek at the southern border of the property. The site is located directly across from the former Anniston Manufacturing (more recently Chalk-Line Inc.) textiles operation. The L & N Railroad Depot site is on level ground. Sheet flow is into a channelized unnamed tributary of Snow Creek. There were no well-defined erosion channels present at the time of the April 18, 2000 site investigation. The area immediately north of the depot has a two of residences and two businesses; Precision Parts Rebuilders, which is out of business and an ABC store. The area immediately east of the site has an empty lot, a closed rooming house and the Opportunity Center operation. The area immediately to the west has two sets of railroad tracks and single former large textiles site that is in the process of being demolished. Thirty-nine residences are located on the west side of the former Anniston Manufacturing operation. The southern end of the property is bordered by an empty lot an out of business Malden Poultry Company. The depot known as Union Station in 1888 was originally founded and owned by Samuel Noble, one of the city's major founding fathers. At some undermined time frame, the site became the property of the L & N Railroad Company. Sanborn maps dated 1925 and 1940, and located in the Anniston Public Library provided the majority of the information on the site (Att. 11). The original site dates to the 1860's and through the years serviced the Anniston & Cincinnati RR, the Tennessee, Virginia, & Georgia RR, the Georgia Pacific RR, the Louisville & Nashville RR, and probably a host of others. Little is known of the actual operation undertaken at the site other than that the site was a fully operational train station for at least 75 years. There are no ADEM records of any types of waste being generated at this site.

Probable Substances of Concern:
(Previous investigations, analytical data)

PCB's and metal contamination

SAMPLE ID	Field Screening PCBs in ppm	XRF Screening Pb in ppm	XRF Screening Fe in ppm
PB-023-01	260	231 & 376	9625 & 10,796
PB-023-02	20	287 & 194	32,588 & 44,876

Site Sketch:
Show all pertinent features, indicate source and closest targets, indicate north)



SOURCE EVALUATION

Source No.: 1	Source Name: Contaminated Soil	Source Waste Quantity (WQ) Calculations:
Source description: soil contaminated with PCBs and lead		Source Type: contaminated soil Constituent Quantity: not available Wastestream Quantity: not available Area: $\leq$3.4 million ft^2 WC = 18

Source No.:	Source Name:	Source Waste Quantity (WQ) Calculations:

Source No.:	Source Name:	Source Waste Quantity (WQ) Calculations:
Source Description:		

Source No.:	Source Name:	Source Waste Quantity (WQ) Calculations:
Source Description:		

Source No.:	Source Name:	Source Waste Quantity (WQ) Calculations:
Source Description:		

Site WC: 18

PA TABLE 1: WASTE CHARACTERISTICS (WC) SCORES

TIER	SOURCE TYPE	SINGLE SOURCE SITES (assigned WC scores): WC = 18	WC = 32	WC = 100	MULTIPLE SOURCE SITES: Formula for Assigning Source WQ Values
CONSTITUENT	N/A	≤ 100lb	> 100 to 10,000 lb	> 10,000 lb	lb ÷ 1
WASTESTREAM	N/A	≤ 500,000 lb	> 500,000 to 50 million lb	> 50 million lb	lb ÷ 5,000
VOLUME	Landfill	≤ 6.75 million ft^3 ≤ 250,000 yd^3	>6.75 million to 675 million ft^3 > 250,000 to 25 million yd^3	>675 million ft^3 > 25 million yd^3	ft^3 ÷ 67,500 yd^3 ÷ 2,500
	Surface impoundment	≤ 6,750 ft^3 ≤ 250 yd^3	>6,750 to 675,000 ft^3 > 250 to 25,000 yd^3	>675,000 ft^3 > 25,000 yd^3	ft^3 ÷ 67.5 yd^3 ÷ 2.5
	Drums	≤ 1,000 drums	>1,000 drums to 100,000 drums	>1000,000 drums	drums ÷ 10
	Tanks and non-drum containers	≤ 50,000 gallons	> 50,000 to 5 million gallons	> 5 million gallons	gallons ÷ 500
	Contaminated soil	≤ 6.75 million ft^3 ≤ 250,000 yd^3	>6.75 million to 675 million ft^3 > 250,000 to 25 million yd^3	>675 million ft^3 > 25 million yd^3	ft^3 ÷ 67,500 yd^3 ÷ 2,500
	Pile	≤ 6,750 ft^3 ≤ 250 yd^3	>6,750 to 675,000 ft^3 > 250 to 25,000 yd^3	>675,000 ft^3 > 25,000 yd^3	ft^3 ÷ 67.5 yd^3 ÷ 2.5
	Other	≤ 6,750 ft^3 ≤ 250 yd^3	>6,750 to 675,000 ft^3 > 250 to 25,000 yd^3	>675,000 ft^3 > 25,000 yd^3	ft^3 ÷ 67.5 yd^3 ÷ 2.5
AREA	Landfill	≤ 340,000 ft^2 ≤ 7.8 acres	> 34 million ft^2 > 7.8 to 780 acres	> 34 million ft^2 > 780 acres	ft^2 ÷ 3,400 acres ÷ 0.078
	Surface impoundment	≤ 1,300 ft^2 ≤ 0.029 acres	> 1,300 to 130,000 ft^2 > 0.029 to 2.9 acres	> 130,000 ft^2 > 2.9 acres	ft^2 ÷ 13 acres ÷ 0.00029
	Contaminated soil	≤ 3.4 million ft^2 ≤ 78 acres	> 3.4 million to 340 million ft^2 > 78 to 7,800 acres	> 340 million ft^2 > 7,800 acres	ft^2 ÷ 34,000 acres ÷ 0.78
	Pile *	≤ 1,300 ft^2 ≤ 0.029 acres	> 1,300 to 130,000 ft^2 > 0.029 to 2.9 acres	> 130,000 ft^2 > 2.9 acres	ft^2 ÷ 13 acres ÷ 0.00029
	Land Treatment	≤ 27,000 ft^2 ≤ 0.62 acres	> 27,000 to 2.7 million ft^2 > 0.62 acres to 62 acres	> 2.7 million ft^2 > 62 acres	ft^2 ÷ 270 acres ÷ 0.0062

* Use area of land surface under pile, not surface area of pile.

1 ton = 2,000 lb = 1 yd^3 = 4 drums = 200 gallons

PA TABLE 1 b: WC for Multiple Source Sites

WQ Total	WC Score
> 0 to 100	18
> 100 to 10,000	32
> 10,000	100

GROUND WATER PATHWAY
GROUNDWATER USE DESCRIPTION

Describe Ground Water Use Within 4-miles of the Site:
(Describe stratigraphy, information on aquifers, municipal and/or private wells)

The L & N Railroad Depot site is located within the outcrop area of the Cambrian age Shady Dolomite. The Cambrian age Shady Dolomite is described by Moser and DeJarnette, 1992, as: Bluish-gray or pale-yellow thick bedded siliceous dolomite with coarsely crystalline porous chert. Thickness range of the Shady Dolomite below Calhoun County is approximately 500 feet.

Consolidated sedimentary rocks that range in age from the Cambrian to Pennsylvanian underlie the majority of Calhoun County These rocks have been sharply folded into a series of northeast trending anticlines and synclines complicated by thrust faults. In the extreme southeastern portion of the county metamorphic rocks of the Piedmont have been thrust up to the northwest and overlie sedimentary of Cambrian and Ordovician age.

An unnamed fault traverses approximately .2 miles to the southwest of the site, another unnamed fault traverses approximately .5 miles to the northeast of the site, the Jacksonville Fault traverses approximately 1 mile to the northwest of the site, and the Cartersville Fault traverses approximately 1.75 miles to the southeast of the site. The site is located in an area that is highly susceptible to karst formation and, therefore, correspondingly susceptible to contamination from surface or near surface sources. The depth to the shallowest aquifer for the site could be as little as 25 feet.

The L & N Railroad Depot site is located within the recharge area for the Valley and Ridge aquifer system, and in the outcrop area of the Shady Dolomite. Groundwater in these units occurs in interconnected solution channels containing potentially large amounts of water. Wells completed in the Shady Dolomites have yielded 69 to 472 gpm.

There are two active public water supply wells located within 4 miles of the. The closest active public water supply well is operated by the Union Foundry, and is located approximately 1.2 miles to the northwest of the site. The other well is operated by the Lee Brass Company and is located approximately 3.75 miles to the southwest of the site. The site is not in a designated wellhead protection area; however, wellhead protection areas are located within four miles of the site.

Calculations for Drinking Water Populations Served by Ground Water:

There are two active public water supply wells located within 4 miles of the site. The closest active public water supply well is operated by the Union Foundry, and is located approximately 1.2 miles to the northwest of the site. It serves 410 people. The other well is operated by the Lee Brass Company and is located approximately 3.75 miles to the southwest of the site. It serves 450 people. The total population served by these two wells is 860 people.

GROUND WATER PATHWAY CRITERIA LIST

SUSPECTED RELEASE

YES	NO	UNK	
☒	☐	☐	Are sources poorly contained?
☒	☐	☐	Is the source a type likely to contribute to ground water contamination (e.g., wet lagoon)?
☐	☒	☐	Is the waste quantity particularly large?
☒	☐	☐	Is precipitation heavy?
☐	☐	☒	Is infiltration rate high?
☒	☐	☐	Is the site located in an area of karst terrain?
☐	☐	☒	Is the subsurface highly permeable or conductive?
☐	☐	☒	Is drinking water drawn from a shallow aquifer?
☐	☒	☐	Are suspected contaminants highly mobile in ground water?
☒	☐	☐	Does analytical or circumstantial evidence suggest ground water contamination?
☐	☒		Other Criteria?
☒	☐		**SUSPECTED RELEASE?**

Summarize the rationale for Suspected Release:

Due to the geologic formation, source type, and unknown waste quantity a release to groundwater is suspected.

PRIMARY TARGETS

YES	NO	UNK	
☐	☒	☐	Is any drinking water well nearby?
☐	☐	☒	Has any nearby drinking water well been closed?
☐	☐	☒	Has any nearby water user reported foul-tasting or foul-smelling water?
☐	☐	☒	Does any nearby well have a large drawdown or high production rate?
☐	☐	☒	Is any drinking water well located between the site and other wells that are suspected to be exposed to a hazardous substance?
☐	☐	☒	Does analytical or circumstantial evidence suggest contamination at a drinking water well?
☐	☐	☒	Does any drinking water well warrant sampling?
☐	☒		Other criteria?
☐	☒		**PRIMARY TARGET(S) IDENTIFIED?**

Summarize the rationale for Primary Targets:

Drinking water wells are located within 4 miles of the site. The site is located in a relatively permeable geologic formation.

GROUND WATER PATHWAY SCORESHEET

Pathway Characteristics		
Do you suspect a release (see Ground Water Pathway Criteria List)?	Yes ☒	No ☐
Is the site located in karst terrain?	Yes ☒	No ☐
Depth to aquifer:	0-25 ft	
Distance to nearest drinking water well:	12,000 ft	

	A Suspected Release	B No Suspected Release	Reference
LIKELIHOOD OF RELEASE			
1. SUSPECTED RELEASE: If you suspect a release to ground water assign a score of 550. Use only column A for this pathway.	550		
2. NO SUSPECTED RELEASE: If you do not suspect a release to groundwater, and the site is in karst terrain or the depth to aquifer is 70 feet or less, assign a score of 500; otherwise, assign a score of 340. Use only column B for this pathway.			
LR =	550		
TARGETS			
3. PRIMARY TARGET POPULATION: Determine the number of people served by drinking water wells that you suspect have been exposed to a hazardous substance from the site. 0 people x 10 =	0		
4. SECONDARY TARGET POPULATION: Determine the number of people served by drinking water wells that you do NOT suspect have been exposed to a hazardous substance from the site, and assign the total population score from PA Table 2. Are any wells part of a blended system Yes ☐ No ☒ If yes, attach a page to show apportionment calculations.	26		
5. NEAREST WELL: If you have identified a primary target population for ground water, assign a score of 50; otherwise, assign the Nearest Well score from PA Table 2. If no drinking water wells exist within 4 miles, assign a score of zero.	20		
6. WELLHEAD PROTECTION AREA (WHPA): If any source lies within or above a WHPA, or if you have identified any primary target well within a WHPA, assign a score of 20; assign 5 if neither condition holds but a WHPA is present within 4 miles; otherwise assign zero.			
7. RESOURCES	5		
T =	51		
WASTE CHARACTERISTICS			
8. A) If you have identified any primary target for ground water, assign the calculated waste characteristics score, or a score of 32, whichever is GREATER; do not evaluate part B of this factor.			
8. B) If you have NOT identified any primary target for ground water, assign the calculated waste characteristics.	18		
WC =	18		

GROUND WATER PATHWAY SCORE: $\frac{LR \times T \times WC}{82,500}$

A	B
6	

PA TABLE 2: VALUES FOR SECONDARY GROUNDWATER TARGET POPULATIONS

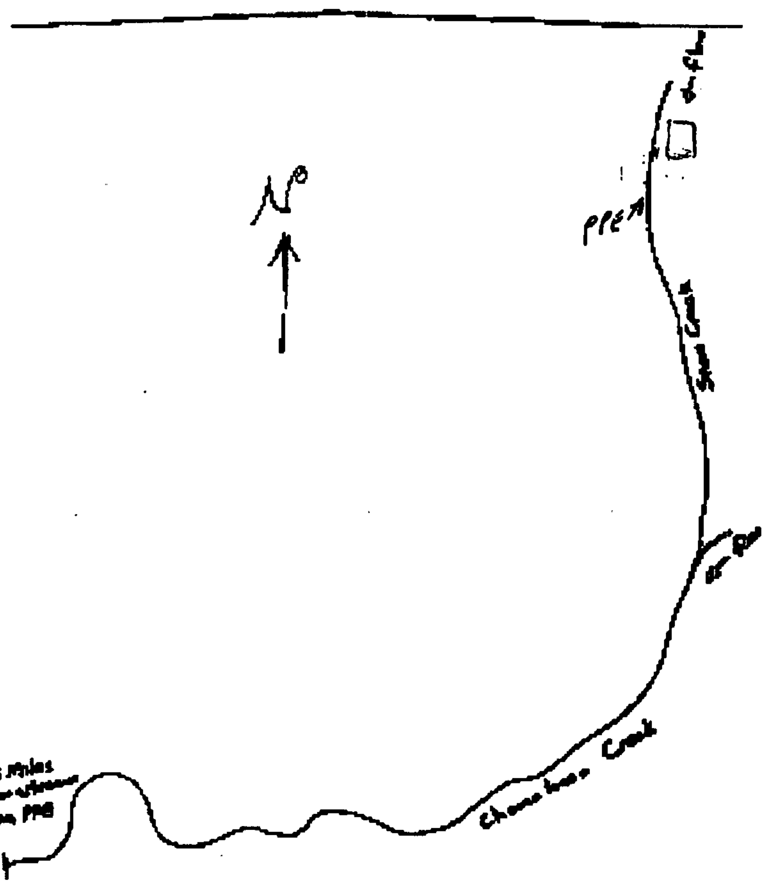
PA Table 2a: Non-Karst Aquifers

			Population Served By wells within Distance Category										
Distance from Site	Population	Nearest Well (choose highest)	1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	Greater than 100,000	Population Value
0 to 1/4 mile		20	1	2	5	16	52	163	521	1,633	5,214	16,325	163
> 1/4 to 1/2 mile		18	1	1	3	10	32	101	323	1,012	3,233	10,121	
> 1/2 to 1 mile		9	1	1	2	5	17	52	167	522	1,666	5,224	17
> 1 to 2 miles		5	1	1	1	3	9	29	94	294	939	2,938	
> 2 to 3 miles		3	1	1	1	2	7	21	68	212	678	2,122	
> 3 to 4 miles		2	1	1	1	1	4	13	42	131	417	1,306	
	Nearest Well =	20										Score =	180

PA Table 2b: Karst Aquifers

			Population Served By wells within Distance Category										
Distance from Site	Population	Nearest Well (choose highest)	1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	Greater than 100,000	Population Value
0 to 1/4 mile		20	1	2	5	16	52	163	521	1,633	5,214	16,325	
> 1/4 to 1/2 mile		20	1	1	3	10	32	101	323	1,012	3,233	10,121	
> 1/2 to 1 mile		20	1	1	3	8	26	82	261	816	2,607	8,162	
> 1 to 2 miles		20	1	1	3	8	26	82	261	816	2,607	8,162	
> 2 to 3 miles	860	20	1	1	3	8	26	82	261	816	2,607	8,162	26
> 3 to 4 miles		20	1	1	3	8	26	82	261	816	2,607	8,162	
	Nearest Well =	20										Score =	

Surface Water Migration Route Sketch:
(include runoff route, probable point of entry, 15-mile target distance limit, intake, fisheries, and sensitive environments)



SURFACE WATER PATHWAY CRITERIA LIST

SUSPECTED RELEASE

YES	NO	UNK	
☒	☐	☐	Is surface water nearby?
☐	☒	☐	Is the waste quantity particularly large?
☒	☐	☐	Is the drainage area large?
☒	☐	☐	Is rainfall heavy?
☐	☐	☒	Is the infiltration rate low?
☒	☐	☐	Are sources poorly contained or prone to runoff or flooding?
☐	☒	☐	Is runoff route well defined (e. g., ditch or channel leading to surface water)?
☐	☒	☐	Is vegetation stressed along the probable runoff route?
☐	☒	☐	Are sediments or water unnaturally discolored?
☐	☒	☐	Is wildlife unnaturally absent?
☐	☒	☐	Has deposition of waste into surface water been observed?
☐	☒	☐	Is ground water discharge to surface water likely?
☒	☐	☐	Does analytical or circumstantial evidence suggest surface water contamination?
☐	☐		Other criteria?
☒	☐		**SUSPECTED RELEASE?**

PRIMARY TARGETS

YES	NO	UNK	
☒	☐	☐	Is any target nearby? If yes: ☐ Drinking water intake ☒ Fishery ☒ Sensitive environment
☒	☐	☐	Has any intake, fishery, or recreational area been closed?
☒	☐	☐	Does analytical or circumstantial evidence suggest surface water contamination at or downstream of a target?
☒	☐	☐	Does any target warrant sampling? If yes: ☐ Drinking water intake ☒ Fishery ☒ Sensitive environment
☐	☐		Other Criteria?
☐	☒		**PRIMARY INTAKE(S) IDENTIFIED?**
☒	☐		**PRIMARY FISHERY(IES) IDENTIFIED?**
☐	☒		**PRIMARY SENSITIVE ENVIRONMENT(S) IDENTIFIED?**

Summarize the rationale for Suspected Release:

Proximity of Snow Creek, unnamed tributaries of Snow Creek, and Choccolocco Creek to effects of contaminated surface water runoff from site.

Summarize the rationale for Primary Targets:

Posted fish consumption advisories on Choccolocco Creek within the 15 mile downstream range.

Endangered species have been identified within the 15 mile downstream range.

SURFACE WATER PATHWAY
LIKELIHOOD OF RELEASE AND DRINKING WATER THREAT SCORESHEET

Pathway Characteristics

Do you suspect a release (see Surface Water Pathway Criteria List) Yes ☒ No ☐

Distance to surface water: > 10 feet

Flood Frequency: 100-year flood plain

What is the downstream distance to the nearest drinking water intake? >15 miles

Nearest fishery? < 10 feet Nearest sensitive environment? < 15 miles

LIKELIHOOD OF RELEASE

	A: Suspected Release	B: No Suspected Release	Reference
1. SUSPECTED RELEASE: If you suspect a release to surface water assign a score of 550. Use only column A for this pathway.	550		
2. NO SUSPECTED RELEASE: If you do not suspect a release to surface water, use the table below to assign a score based on distance to surface water and flood frequency. Use only column B for pathway.			
LR =	550		

Distance to surface water ≤ 2,500 feet	500
Distance to surface water ≥ 2,500 feet	
Site in annual or 10-year floodplain	500
Site in 100-year floodplain	400
Site in 500-year floodplain	300
Site outside 500-year floodplain	100

DRINKING WATER THREAT TARGETS

3. Record the water body type, flow (if applicable), and number of people served by each drinking water intake within the target distance limit. If there is no drinking water intake within the target distance limit, factors 4, 5, and 6 each receive zero scores.

Intake Name	Water Body Type	Flow	People Served
		cfs	
		cfs	
		cfs	

	A: Suspected Release	B: No Suspected Release	Reference
4. PRIMARY TARGET POPULATION: If you suspect any drinking water intake listed above has been exposed to a hazardous substance from the site (see Surface Water Pathway Criteria List) list the intake name(s) and calculate the factor score based on the total population served. ____, ____ ____ people x 10 =	0		
5. SECONDARY TARGET POPULATION: Determine the number of people served by drinking water intakes that you do NOT suspect have been exposed to hazardous substance from the site, and assign the total population score from PA Table 3. Are any intakes part of a blended system? Yes ☐ No ☐ If yes, attach a page to show apportionment calculations.	0		
6. NEAREST INTAKE: If you have identified a primary target population for the drinking water threat (factor 4), assign a score of 50; otherwise, assign the Nearest Intake Score from PA Table 3. If no drinking water intake exists within the target distance limit, assign a score of zero.	0		
7. RESOURCES	5		
T =	5		

PA TABLE 3: VALUES FOR SECONDARY SURFACE WATER TARGET POPULATIONS

Surface Water Body Flow (see PA Table 4)	Population	Nearest Intake (choose highest)	Population Served by Intakes Within Flow Category											Population Value
			1 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	Greater than 1,000,000	
< 10 cfs		20	2	5	16	52	163	521	1,633	5,214	16,325	52,136	163,246	
10 to 100 cfs		2	1	1	2	5	16	52	163	521	1,633	5,214	16,325	
> 100 to 1,000 cfs		1	0	0	1	1	2	5	16	52	163	521	1,633	
> 1,000 to 10,000 cfs		0	0	0	0	0	1	1	2	5	16	52	163	
> 10,000 or Great Lakes		0	0	0	0	0	0	0	1	1	2	5	16	
3-mile Mixing Zone		10	1	3	8	26	82	261	816	2,607	8,162	26,068	81,663	
	Nearest Intake =												Score =	

PA TABLE 4: SURFACE WATER TYPE/ FLOW CHARACTERISTICS WITH DILUTION WEIGHTS FOR SECONDARY SURFACE WATER SENSITIVE ENVIRONMENTS

Type of Surface Water Body			Dilution Weight
Water Body Type	OR	Flow	
minimal stream		< 10 cfs	1
small to moderate stream		10 to 100 cfs	0.1
moderate to large stream		> 100 to 1,000 cfs	N/A
large stream to river		> 1,000 to 10, 000 cfs	N/A
large river		> 10,000 cfs	N/A
3-mile mixing zone of quiet flowing streams or rivers		10 cfs or greater	N/A
coastal tidal water (harbors, sounds, bays, etc.), ocean, or Great Lake		N/A	N/A

SURFACE WATER PATHWAY (continued)
HUMAN FOOD CHAIN THREAT SCORESHEET

LIKELIHOOD OF RELEASE		A Suspected Release	B No Suspected Release	Reference
Enter Surface Water Likelihood of Release score	LR =	550		

HUMAN FOOD CHAIN THREAT TARGETS

8. Record the water body type and flow (if applicable) for each fishery within the target distance limit. If there is no fishery within the target distance limit, assign a Targets score of 0 at the bottom of the page.

Fishery Name	Water Body Type	Flow
UT of Snow Creek	Minimal Stream	<10 cfs
Snow Creek	Small Stream	10-100cfs
Choccolocco Creek	Moderate Stream	10-100cfs
		cfs
		cfs

9. PRIMARY FISHERIES: If you suspect any fishery listed above has been exposed to a hazardous substance from the site (see Surface Water Criteria List), assign a score of 300 and do not evaluate Factor 10. List the primary fisheries: — A: 300

UT of Snow Creek — Choccolocco Creek

Snow Creek

10. SECONDARY FISHERIES

A. If you suspect a release to surface water and have identified a secondary fishery but no primary fishery, assign a score of 210.

B. If you do not suspect a release, assign a Secondary Fisheries score from the table below using the lowest flow at any fishery within the target distance limit.

Lowest Flow	Secondary Fishery Score
< 10 cfs	210
10 to 100 cfs	30
> 100 cfs, coastal tidal waters, ocean, or Great Lakes	12

	A	B
T =	300	

SURFACE WATER PATHWAY (continued)
ENVIRONMENTAL THREAT SCORESHEET

LIKELIHOOD OF RELEASE

		A Suspected Release	B No Suspected Release	Reference
Enter Surface Water Likelihood of Release score	LR =	550		

ENVIRONMENTAL THREAT TARGETS

11. Record the water body type and flow (if applicable) for each surface water sensitive environment within the target distance limit (see PA Table 4 and 5). If there is no sensitive environment within the target distance limit, assign a Target score of 0 at the bottom of the page.

Environment Name	Water Body Type	Flow
UT of Snow Creek	Minimal Stream	<10 cfs
Snow Creek	Small Stream	10-100cfs
Choccolocco Creek	Moderate Stream	10-100cfs
		cfs
		cfs

12. PRIMARY SENSITIVE ENVIRONMENTS: If you suspect any sensitive environment listed above has been exposed to a hazardous substance from the site (see Surface Water Criteria List, page 11), assign a score of 300 and do not evaluate factor 13. List the Primary sensitive environments:

UT of Snow Creek , Choccolocco Creek

Snow Creek ,

A Suspected Release: 300

13. SECONDARY SENSITIVE ENVIRONMENTS: If sensitive environments are present, but none is a primary sensitive environment, evaluate Secondary Sensitive Environments based on flow..

A. For a secondary sensitive environment on surface water bodies with flow of 100 cfs or less, assign scores as follows, and do not evaluate part B of this factor:

Flow	Dilution Weight (PA Table 4)	Environment Type and Value (PA Table 5 and 6)	Total
cfs	X	=	
cfs	X	=	
cfs	X	=	
cfs	X	=	
cfs	X	=	

B. If all secondary sensitive environments are located on surface water bodies within flows > 100 cfs, assign a score of 10.

	A Suspected Release	B No Suspected Release
T =	300	

PA TABLE 5: SURFACE WATER AND AIR PATHWAY SENSITIVE ENVIRONMENTS VALUES

Sensitive Environment	Assigned Value
Critical habitat for federally designated endangered or threatened species Marine Sanctuary National Park Designated Federal Wilderness Area Ecologically important areas identified under the Coastal Zone Wilderness Act Sensitive Areas identified under the National Estuary Program or Near Coastal Water Program of the Clean Water Act Critical Areas identified under the Clean Lake Program of the Clean Water Act (subareas in lakes or entire small lakes) National Monument (air pathway only) National Seashore Recreational Area National Lakeshore Recreational Area	100
Habitat Known to be used by Federally designated or proposed endangered or threatened species National Preserve National or State Wildlife Refuge Unit of Coastal Barrier Resources System Federal land designated to the protection of natural ecosystems Administratively proposed Federal Wilderness Area Spawning area critical for the maintenance of fish/shellfish species within a river system, bay, or estuary Migration pathways and feeding areas critical for the maintenance of anadromous fish species in a river system Terrestrial areas utilized for breeding by large or dense aggregation of vertebrate animals (air pathway) or semi-aquatic foragers (surface water pathway) National river reach designated as Recreational	75
Habitat known to be used by State designated endangered or threatened species Habitat known to be used by a species under review as to its Federal endangered or threatened status Coastal Barrier (partially developed) Federally designated Scenic or Wild River	50
State land designated for wildlife or game management State designated Scenic or Wild River State designated Natural Area Particular areas, relatively small in size, important to maintenance of unique biotic communities	25
State designated areas for protection/maintenance of aquatic life under the Clean Water Act	5
Wetlands	See PA Table 6 (Surface Water Pathway) or PA Table 9 (Air Pathway)

PA TABLE 6: SURFACE WATER PATHWAY WETLANDS FRONTAGE VALUES

Total length of Wetlands	Assigned Value
Less than 0.1 mile	0
0.1 to 1 mile	25
Greater than 1 to 2 miles	50
Greater than 2 to 3 miles	75
Greater than 3 to 4 miles	100
Greater than 4 to 8 miles	150
Greater than 8 to 12 miles	250
Greater than 12 to 16 miles	350
Greater than 16 to 20 miles	450
Greater than 20 miles	500

SURFACE WATER PATHWAY (continued)
WASTE CHARACTERISTICS, THREAT, AND PATHWAY SCORE SUMMARY

WASTE CHARACTERISTICS

14.	A Suspected Release	B No Suspected Release
A. If you have identified any primary target for surface water, assign the waste characteristics score calculated, or a score of 32, whichever is GREATER; do not evaluate part B of this factor.	32	
B. If you have NOT identified any primary targets for surface water, assign the calculated waste characteristics score.		
WC =	32	

SURFACE WATER PATHWAY THREAT SCORES

Threat	Likelihood of Release (LR) Score	Target (T) Score	Pathway Waste Characteristics (WC) Score (determined above)	Threat Score LR x T x WC / 82,500
Drinking Water	550	5	32	1
Human Food Chain	550	300	32	64
Environmental	550	300	32	64

SURFACE WATER PATHWAY SCORE (Drinking Water Threat + Human Food Chain Threat + Environmental Threat)	100

SOIL EXPOSURE PATHWAY CRITERIA LIST				
SUSPECTED CONTAMINATION	**RESIDENT POPULATION**			
Surficial contamination can generally be assumed.	YES	NO	UNK	
	☒	☐	☐	Is any residence, school, or daycare facility on or within 200 feet of an area of suspected contamination?
	☒	☐	☐	Is any residence, school, or daycare facility located on adjacent land previously owned or leased by the site owner/operator?
	☒	☐	☐	Is there a migration route that might spread hazardous substance near residence, schools, or day care facilities?
	☒	☐	☐	Have onsite or adjacent residents or students reported adverse health effects, exclusive of apparent drinking water or air contamination problems?
	☒	☐	☐	Does any neighboring property warrant sampling?
	☐	☒		Other criteria?
	☒	☐		**RESIDENT POPULATION IDENTIFIED?**

Summarize the rationale for Resident Population:

There are private residences within 200 feet of areas of suspected contamination.

SOIL EXPOSURE PATHWAY SCORESHEET

Pathway Characteristics		
Do any people live on or within 200 ft of areas of suspected contamination?	Yes ☒	No ☐
Do any people attend school or daycare on or within 200 ft of areas of suspected contamination?	Yes ☐	No ☒
Is the facility active Yes ☐ No ☒ If yes, estimate the number of workers:		

LIKELIHOOD OF EXPOSURE	Suspected Contamination	Reference
1. SUSPECTED CONTAMINATION: Surficial contamination can generally be assumed, and a score 550 assigned. Assign zero only if the absence of surficial contamination can be confidently demonstrated. LE =	550	
RESIDENT POPULATION THREAT TARGETS		
2. RESIDENT POPULATION: Determine the number of people occupying residences or attending school or daycare on or within 200 feet of areas suspected of contamination. 101 people x 10 =	1010	
3. RESIDENT INDIVIDUAL: If you have identified a resident population (Factor 2), assign a score of 50; otherwise assign a score of 0.	50	
4. WORKERS: Use the following table to assign a score based on the total number of workers at the facility and nearby facilities with suspected contamination:	0	
5. TERRESTRIAL SENSITIVE ENVIRONMENTS: Use PA Table 7 to assign a value for each terrestrial sensitive environment on an area of suspected contamination: Sum =	0	
6. RESOURCES	5	
T =	1065	

Workers table (Factor 4):

Number of Workers	Score
0	0
1 to 100	5
101 to 1,000	10
> 1,000	15

Terrestrial sensitive environments table (Factor 5):

Terrestrial Sensitive Environment Type	Value

WASTE CHARACTERISTICS

7. Assign the waste characteristics score calculated on page 4. WC =	18

RESIDENT POPULATION THREAT SCORE: $\frac{LE \times T \times WC}{82,500}$ **100**

NEARBY POPULATION THREAT SCORE: **1**

SOIL EXPOSURE PATHWAY SCORE: **100**
Resident Population threat + Nearby Population Threat

PA TABLE 7: SOIL EXPOSURE PATHWAY
TERRESTRIAL SENSITIVE ENVIRONMENT VALUES

Terrestrial Sensitive Environment	Assigned Value
Terrestrial critical habitat for federally designated endangered or threatened species National Park Designated Federal Wilderness National Monument	100
Terrestrial habitat know to be used by Federally designated or proposed threatened or endangered species National Preserve (terrestrial) National or State terrestrial Wildlife Refuge Federal land designated to the protection of natural ecosystems Administratively proposed Federal Wilderness Area Terrestrial areas utilized by large or dense aggregation of animals (vertebrate species) for breeding	75
Terrestrial habitat known to be used by State designated endangered or threatened species Terrestrial habitat used by a species under review for Federal designated endangered or threatened status	50
State land designated for wildlife or game management State designated Natural Area Particular areas, relatively small in size, important to maintenance of unique biotic communities	25

AIR PATHWAY CRITERIA LIST	
SUSPECTED RELEASE	**PRIMARY TARGETS**
YES / NO / UNK	
☐ ☒ ☐ Are odors currently reported?	
☐ ☒ ☐ Has release of a hazardous substance to the air been directly observed?	
☐ ☒ ☐ Are there reports of adverse health effects (e. g., headaches, nausea, dizziness) potentially resulting from migration of hazardous substances through the air?	If you suspect a release to air, evaluate all populations and sensitive environments within 1/4 mile (include those onsite) as primary targets.
☐ ☒ ☐ Does analytical or circumstantial evidence suggest a release to the air?	
☐ ☒ Other criteria?	
☐ ☒ **SUSPECTED RELEASE?**	

Summarize the rationale for Suspected Release:

There are no indications or evidence that a release to the air pathway is occurring.

AIR PATHWAY SCORESHEET

	A Suspected Release	B No Suspected Release	Reference
LIKELIHOOD OF RELEASE			
1. SUSPECTED RELEASE: If you suspect a release to air, assign a score of 550. Only use column A for this pathway.			
2. NO SUSPECTED RELEASE: If you do not suspect a release to air, assign a score of 500. Use column B for this pathway.		500	
LR =		500	

	A Suspected Release	B No Suspected Release	Reference
TARGETS			
3. PRIMARY TARGET POPULATION: Determine the number of people subject to exposure from a suspected release of hazardous substances to the air. ___ people x 10 =			
4. SECONDARY TARGET POPULATION: Determine the number of people not suspected to be exposed to a release to air, and assign the total population score from PA Table 8.		32	
5. NEAREST INDIVIDUAL: If you have identified any Primary Target Population for the air pathway, assign a score of 50; otherwise, assign the Nearest Individual score from PA Table 8.		20	
6. PRIMARY SENSITIVE ENVIRONMENTS: Sum the sensitive environment values (PA Table 5) and wetland acreage value (PA Table 9) for environments subject to exposure from a suspected release to the air. Sum =			
7. SECONDARY SENSITIVE ENVIRONMENTS: Use PA Table 10 to determine the score for secondary sensitive environments.		0	
8. RESOURCES		5	
T =		57	

Sensitive Environment Type	Value

	A Suspected Release	B No Suspected Release
WASTE CHARACTERISTICS		
9. A. If you have identified any primary target for the air pathway, assign the waste characteristics score calculated, or a score of 32, whichever is GREATER; do not evaluate part B of factor.		
B. If you have NOT identified any Primary Target for the air pathway, assign the waste characteristics score calculated.		18
WC =		18

AIR PATHWAY SCORE: $\frac{LE \times T \times WC}{82,500}$

A	B
	6

PA TABLE 8: VALUES FOR SECONDARY AIR TARGET POPULATIONS

Distance from Site	Population	Nearest Individual (choose highest)	Population Within Distance Category: 1 to 10	11 to 30	31 to 100	101 to 300	301 to 1,000	1,001 to 3,000	3,001 to 10,000	10,001 to 30,000	30,001 to 100,000	100,001 to 300,000	300,001 to 1,000,000	Greater than 1,000,000	Population Value
Onsite	0	20	1	2	5	16	52	163	521	1,633	5,214	16,325	52,136	163,246	0
> 0 to 1/4 mile	496	20	1	1	1	4	13	41	130	408	1,303	4,081	13,034	40,811	4
> 1/4 to 1/2 mile	1976	2	0	0	1	1	3	9	28	88	282	882	2,815	8,815	9
> 1/2 to 1 mile	4909	1	0	0	0	1	1	3	8	26	83	261	834	2,612	8
> 1 to 2 miles	11332	0	0	0	0	0	1	1	3	8	27	83	266	833	8
> 2 to 3 miles	9859	0	0	0	0	0	1	1	1	4	12	38	120	376	1
> 3 to 4 miles	11007	0	0	0	0	0	0	1	1	2	7	23	73	229	2
Nearest Individual =		20												Score =	32

PA TABLE 9: AIR PATHWAY VALUES FOR WETLAND AREA

Wetland Area	Assigned Value
Less than 1 acre	0
1 to 50 acres	25
Greater than 50 to 100 acres	75
Greater than 100 to 150 acres	125
Greater than 150 to 200 acres	175
Greater than 200 to 300 acres	250
Greater than 300 to 400 acres	350
Greater than 400 to 500 acres	450
Greater than 500 acres	500

PA TABLE 10: DISTANCE WEIGHTS AND CALCULATIONS FOR AIR PATHWAY SECONDARY SENSITIVE ENVIRONMENTS

Distance	Distance Weight	Sensitive Environment Type and Value (from PA Table 5 or 9)	Product
Onsite	0.10		
0 - 1/4 mi	0.025	x x x	
1/4 - 1/2 mi	0.0054	x x x x	
		Total Environments Score =	15

SITE SCORE CALCULATION

	S	S^2
GROUND WATER PATHWAY SCORE (S_{gw}):	6	36
SURFACE WATER PATHWAY SCORE (S_{sw}):	100	10,000
SOIL EXPOSURE PATHWAY SCORE (s_s):	100	10,000
AIR PATHWAY SCORE (S_a):	6	36
SITE SCORE:	$\sqrt{\frac{S_{gw^2} + S_{sw^2} + S_{s^2} + S_{a^2}}{4}}$	71

SUMMARY

	YES	NO
1. Is there a high possibility of a threat to any nearby drinking water well(s) by migration of a hazardous substance in groundwater? A. If yes, identify the well(s). B. If yes, how many people are served by the threatened well(s)? —	☐	☒
2. Is there a high possibility of a threat to any of the following by hazardous substance migration in surface water? A. Drinking water intake B. Fishery C. Sensitive environment (wetland, critical habitat, others) D. If yes, identify the target(s).	 ☐ ☒ ☒	 ☒ ☐ ☐
3. Is there a high possibility of an area of surficial contamination within 200 feet of any residence, school, or daycare facility?	☒	☐
4. Are there public health concerns at this site that are not addressed by PA scoring considerations? If yes, explain:	☐	☒

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ONIS "TREY" GLENN, III
DIRECTOR

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BOB RILEY
GOVERNOR

June 16, 2009

Ralph O. Howard, Jr., P.G.
Remedial Project Manager,
US Environmental Protection Agency, Region 4
61 Forsyth Street SW
Atlanta, Georgia 30303

RE: Site Reassessment
L&N Railroad Depot - EPA ID# 000009636310

Dear Mr. Howard:

In accordance with EPA's request and our current CERCLA grant work-plan, ADEM personnel performed a Site Reassessment of the L&N Railroad Depot, 1200/1300 Walnut Avenue, Anniston, Calhoun County, Alabama. In 2000, ADEM conducted a preliminary assessment that noted the presence of lead and PCBs in previous soil samples. The L&N Railroad Depot operated as a train station for over 75 years and there are no records of any hazardous wastes being generated on-site. In December, 2008 the main depot building was destroyed by fire, leaving behind a charred pile of bricks, stones, and other debris. Previous field soil tests revealed the presence of PCB's, lead, and other metals on-site. At this time, it is unclear whether the contamination originated from the site or migrated from an outside source.

The site reassessment was performed at your request to ascertain whether targets or circumstances have changed significantly and, by use of the Quickscore software, to determine whether or not this site needs to proceed further in the CERCLA process.

If you have any questions concerning this reassessment, please contact Dylan C. Hendrix, at (334) 271-7987.

Sincerely,

G. Dave Davis, Chief
Assessment Section
Environmental Services Branch

10953697

GDD/dch

U.S. EPA REGION IV

SDMS

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V. 2-040506

Site Reassessment

L & N Railroad Depot Site

1200/1300 Walnut Avenue
Anniston, Calhoun County, Alabama

Prepared By:
Environmental Services Branch

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ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Site Reassessment
L&N Railroad Depot
Calhoun County, Alabama

1. INTRODUCTION

Under authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), the Superfund Amendments and Reauthorization Act of 1986 (SARA), and a cooperative agreement between the United States Environmental Protection Agency (EPA) and the Alabama Department of Environmental Management (ADEM), a Site Reassessment was conducted at the L&N Railroad Depot Site (hereafter referred to as "the site") located at 1200/1300 Walnut Avenue, Anniston, Calhoun County, Alabama. The purpose of this assessment was to collect information concerning conditions at the site sufficient to assess the threat posed to human health and the environment and to determine the need for additional investigation under CERCLA. The scope of the investigation included on-site reconnaissance on March 18, 2009, a review of available file information, and a comprehensive target survey.

2. SITE DESCRIPTION, OPERATIONAL HISTORY, AND WASTE CHARACTERISTICS

2.1 Location

According to the Preliminary Assessment (PA) performed in 2000, the L&N Railroad Depot is located at 1200 Walnut Ave. in Anniston, Alabama, with geographical coordinates of 33°39'37"N, 85°50'04"W (Ref. 1). Recent investigation determined that the current addresses for the site are, in fact, 1200 and 1300 Walnut Ave., with geographical coordinates of 33°39'40.02"N, 85°50'2.25"W. The incongruity may be attributed to a re-structuring of street addresses within the city and a lack of accurate GPS equipment at the time the PA was performed (Att.1, Fig. 1).

There have been no changes in the climate of Calhoun County. The average annual rainfall for Anniston, Alabama is 51.1 inches. The average annual temperature is 62.2°F, with an average summer temperature of 78.5°F and average winter temperature of 45.1°F (Ref. 2).

2.2 Site Description

The L&N Railroad Depot Site consists of the main depot located at 1300 Walnut Avenue and the old freight warehouse located directly to the south at 1200 Walnut Avenue. Ownership of the main depot has not changed since the PA was performed in 2000. Mr. Jimmy W. Stephenson and Mrs. C. Ann Stephenson are still the present owners of the property (Ref. 3). Ownership of the old freight warehouse building was transferred to Mr. Earlon C. McWhorter in 2001 (Ref. 4). On December 30, 2008 a fire destroyed the main depot, leaving behind a pit of burned timber and stone debris; the old freight warehouse was not damaged by the fire (Ref. 5, Att. 2,3).

The site is bounded on the north by the Opportunity Center Easter Seals, on the east by Walnut Avenue, on the south by Snow Creek, and on the west by a small tributary and the Norfolk Southern Railway. The approximate size of the site is 3.16 acres (Fig.1).

2.3 Operational History and Waste Characteristics

The L&N Railroad Depot did not historically produce or generate any wastes; however, the 2000 PA documents the on-site presence of PCBs, lead, and other heavy metals (Ref. 1). Contaminants found on-site or in the area may have migrated from other sources such as metal casting facilities, chemical plants, and transformers/capacitors at electric substations (Ref. 6). The west Anniston area is currently involved in a cleanup effort to remediate decades of PCB and heavy metal contamination in residential and urban locations.

3. GROUND WATER PATHWAY

3.1 Hydrogeologic Setting

No change.

3.2 Ground Water Targets

The closest water well is located approximately 1.2 miles northwest of the site and is operated by Union Foundry. This is an industrial/agricultural well that provides process and cooling water to the foundry. This well is not used as a drinking water source and does not blend with other systems. The other well within the four-mile target distance limit is operated by the Lee Brass Company and is located approximately 3.75 miles southeast of the site. This is an industrial/agricultural well that provides process and cooling water to the foundry. This well is not used as a drinking water source and does not blend with other systems (Ref. 7; Att. 1). There is a Source Water Assessment Area (SWAA) approximately 3.30 miles to the southwest of the site that falls partially within the four-mile target distance limit (Ref. 8).

3.3 Ground Water Conclusions

Within the four-mile target distance limit are two industrial/agricultural wells that provide process and cooling water and are not sources of drinking water. In the PA it was recommended that this site be further investigated due to the karst topography in the region and the proximity to shallow aquifers. In addition, there is a SWAA located approximately 3.30 miles southwest of the site which falls within the four-mile target distance limit. According to the PA, this site is also located in the recharge area for the Valley and Ridge aquifer systems. Due to the nature of the karst geology in the region and the proximity to the SWAA and shallow aquifers, this site warrants further investigation to determine if a release to groundwater has occurred.

4. SURFACE WATER PATHWAY

4.1 Hydrologic Setting

No change.

4.2 Surface Water Targets

There were no changes in the status of endangered/threatened species along the surface water pathway. There are no drinking water intakes along the fifteen-mile surface water pathway. A no consumption fish advisory for Choccolocco Creek is still in effect due to PCB contamination for its entire length from south of Oxford to Logan Martin Creek (Ref. 9).

In December 2008 the main depot was destroyed by a structure fire; the resulting depression in the ground and physical properties of the rubble may have altered surface water drainage at the site and/or exposed previously buried contaminants. It appears that drainage from the site currently flows west into an un-named tributary of Snow Creek, and also south directly into Snow Creek (Ref. 1, Att. 2,3).

4.2 Surface Water Conclusions

According to the PA the soil samples taken on-site contained elevated levels of PCBs, lead, and other heavy metals. The presence of these constituents represents a potential for off-site migration via the surface water pathways. In 2008, a fire destroyed the main depot building, creating a large central pit filled with charred wood and stone debris. Because of the change in the surficial properties of the site, previously buried contaminants may now be exposed to rainfall and could potentially migrate off-site via the surface water pathways. In addition, these surficial changes may have altered the nature of surface water drainage at the site. Because of the documented presence of contaminants and the recent changes to the surface topography on-site, additional investigation of the L&N Railroad Depot Site is recommended.

5. SOIL EXPOSURE AND AIR PATHWAYS

5.1 Physical Conditions

No change. The recent fire at the main depot left a large central pit containing charred debris; previously buried contaminants may have been exposed in the process (Att. 2,3).

5.2 Soil and Air Targets

There is no indication of a two-person demolition crew working on-site. There are no schools or daycare centers located within 200 feet of the site. There are residences on 14th Street to the northwest that are located within 200 feet of the site boundaries (Fig. 1). The site is surrounded by chain-link fence on the south, west, and north boundaries; however, the eastern side of the site adjacent to Walnut Avenue has no fence and is accessible to the public (Att. 2,3). Exposure to contaminated dust is a concern at the site; there has been extensive documentation of contaminated soil in the west Anniston area and local residents have been encouraged to minimize contact with soil, especially on dry and windy days (Ref. 10). The table below contains population data from the U.S. 2000 census. A total of 35,406 individuals are estimated to live within a four-mile radius of the site.

CERCLA Reassessment L&N Railroad Depot (000009636310) Anniston, Calhoun County, Alabama Demographic Data Four-mile Radius	
Distance from Site (miles)	2000 Population
0.00-0.25	356
0.25-0.50	1,187
0.50-1.0	3,904
1.0-2.0	9,833
2.0-3.0	9,436
3.0-4.0	10,690
Total Population	35,406

5.3 Soil Exposure and Air Pathway Conclusions

Previous on-site soil sampling indicated contamination from PCB's, lead, and other heavy metals. There are no schools or daycare centers within 200 feet of the site; however, there are residences within 200 feet, located along 14th Street to the northwest. The site is accessible to the public from Walnut Avenue through large gaps in the chain-link fence.

Since there are no available air monitoring data from this site, it is unclear whether the air pathway poses any risk to nearby citizens. Residents in west Anniston have been warned about the dangers of exposure to contaminated soil and dust on windy days; the documented presence of on-site soil contamination may indicate a potential for exposure via the air pathway. Due to the recent changes to the property at 1300 Walnut Avenue, contaminated soil may have been exposed and could potentially impact nearby citizens via the air and/or soil pathway. Therefore, it is recommended that further investigation be conducted to determine the nature and extent of the soil contamination on-site.

6. SUMMARY AND CONCLUSIONS

There is no historical evidence of wastes being generated, disposed of, or released at the L&N Railroad Depot. The PA conducted in 2000 documents the presence of PCBs, lead, and other heavy metals in soil samples taken on-site. West Anniston is currently involved in wide-scale remediation of PCB and lead contaminated soil, and it is possible that contaminants found on-site may have originated from an external source.

The site's proximity to the SWAA and shallow aquifers presents a possible threat to groundwater targets. In addition, the karst geology of the region increases the likelihood of a release to groundwater. The site's accessibility and proximity to residential areas may also pose a threat to human targets via the soil pathway.

There is documented evidence of on-site contamination with a potential to release to the target pathways; however, constituents were not detected in quantities or concentrations that would warrant further investigation. Additionally, evidence suggests that contamination at the site likely originated from an off-site source. Therefore, it is recommended that the L&N Railroad Depot site be considered for No Further Action under CERCLA/SARA at this time.

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2. University of North Carolina, Chapel Hill, NC, "Period of Record General Climate Summary – Precipitation," The Southeast Regional Climate Center, July 14, 2008, <http://www.sercc.com/cgi-bin/sercc/cliMAIN.pl?al5550>.

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5. The Anniston Star, "Mourning for the departed: preserving Anniston's relics", December 30, 2008, < http://www.annistonstar.com/opinion/2008/as-editorials-1230-editorial-8l29u4739.htm>

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7. ADEM (Alabama Department of Environmental Management), *Public Water System Details for: Calhoun County (AL0000143, AL0000134)*, Drinking Water Watch, SDWIS Version 1.2, March 24, 2009

8. ADEM (Alabama Department of Environmental Management), *Source Water Assessment Area Details for: Calhoun County,* Source Water Assessment Area Viewer, March 24, 2009

9. ADPH (Alabama Department of Public Health), Alabama Fish Consumption Advisories, 2008 Advisories for Choccolocco Creek, Calhoun County, Alabama, March 30, 2009

10. ATSDR (Agency for Toxic Substances and Disease Registry), Anniston Newsletter, "Gardening in Anniston and Calhoun County", No. 3, August, 2001

ATTACHMENTS:

1. Ford, Joseph L., ADEM, Permits and Services Division, Information Systems Branch, Comprehensive Exposure Pathway Target Map, Map assembled and graphic additions made utilizing ArcView© GIS 3.2, Background image USGS 7.5 Minute Series (Scale 1:24,000) Topographic Quadrangle Maps of Alabama: Anniston, Alabama; Choccolocco, Alabama; Eulaton, Alabama; Hollis Crossroads, Alabama; Munford, Alabama; and Oxford, Alabama.

2. Hendrix, Dylan C., "Trip Report – Site Reassessment for L&N Railroad Depot", ADEM, Land Division, Assessment Section, March 31, 2009.

3. Hendrix, Dylan C., "Photo Documentation Log – Site Reassessment for L&N Railroad Depot", ADEM, Land Division, Assessment Section, March 31, 2009

4. Trimble Navigation Limited, "GPS Pathfinder Systems, User Guide," Version 2.00, Revision A, Part # 40889-10-ENG, April 2004, P. 6-7, 12-13, 18.

FIGURE

1


Google

REFERENCE
1

PRELIMINARY ASSESSMENT
L & N RAILROAD ~~STATION~~ DEPOT
ANNISTON, CALHOUN COUNTY, ALABAMA
CERCLIS SITE REF. No.: 7157
EPA ID No.: 000009636310

Prepared By
Lawrence A. Norris
Alabama Department of Environmental Management

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Date: *September 14, 2000*

Prepared by: *Lawrence A. Norris (Site Investigator)*
Northern Compliance Section
ADEM – Hazardous Waste Branch

Site: *L & N Railroad Depot*
West 11th Street & Walnut Avenue
Anniston, Calhoun County, Alabama 36201

CERCLIS No.: *7157*

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1. INTRODUCTION

Under authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA) and a cooperative agreement between the U. S. Environmental Protection Agency and the Alabama Department of Environmental Management (ADEM), a Preliminary Assessment (PA) was conducted at the L & N Railroad Depot. The purpose of this investigation was to collect information concerning conditions at the site sufficient to assess the threat posed to human health and the environment and to determine the need for additional investigation under CERCLA/SARA or other action. The scope of the investigation included a review of available file information, a comprehensive target survey, and site reconnaissances on and April 18, 2000. Assessment of the Anniston area is ongoing and extensive residential sampling is being conducted at the direction of US EPA as an emergency removal assessment conducted with the support of ADEM. While extensive testing is being conducted, only a small quantity of analytical results was released to ADEM prior to the preparation of this report.

2. SITE DESCRIPTION, SITE HISTORY, AND WASTE CHARACTERISTICS

2.1 Location

The L & N Railroad Depot site is located at West 11th Street & Walnut Avenue in Anniston, Alabama. More specifically, the site is an 8 acre parcel of land located in the NE 1/4 of SW 1/4 of SE 1/4 of Section 6, Township 16 South, Range 8 East in Calhoun County. The geographical coordinates of the site, collected with GPS, are 33°-39'-37" North Latitude and 85°-50'-04" West Longitude (Ref. 1, Att. 1, 2, & 5).

The site is formerly a railroad depot operation dating back to the late 1850's. Prior to assumption by L & N at some unknown point in time, the site was known as the Union Depot. This site (identified as the Union Depot) is visible in an 1883 pen and ink rendition of the City of Anniston (Att. 9). The depot serviced the Anniston & Cincinnati RR, the Tennessee, Virginia, & Georgia RR, and the Georgia Pacific RR. It is situated due east and directly across the railroad tracks from the former Chalk-Line, Inc./Anniston Manufacturing Company.

The climate of Calhoun County is described as humid subtropical. The climate is characterized by long, hot summers, short, mild winters, and heavy precipitation throughout the year. The average annual rainfall for Calhoun County is 54 inches with 19.7 of those inches running off into the streams (Att. 4). The Anniston site is located in an area determined to be outside of the 500-year flood plain (Ref. 9, Att. 4 & 13).

For Calhoun County, the annual average temperature is 62° F with an average temperature in the summer of 80° F and an average temperature in the winter of 43° F (Ref. 3, Att. 4).

2.2 Site Description

The L & N Railroad Depot site is located at 1200 Walnut Avenue in the city of Anniston, Alabama. The L & N Railroad Depot site consists of two buildings (Plates 1 thru 3). The main depot building is in a state of disrepair except for the roof, which appears to have been recently replaced. Tax records indicate that a Mr. Jimmy W. Stephenson and a Ms. C. Ann Stephenson own this part of the site. Just to the south is the old freight warehouse building. Presently, this building has been restored and is in use as office space. It is presently owned by the Julian W. Jenkins (Ref. 2, Att.s 6, 14, & 15). Two architectural firms; Arris, Inc., and Jenkins, Monroe, and Jenkins operate out of the old freight warehouse building (Plate 3). Vegetation on site did not appear to be stressed at the time of the inspection. Railroad tracks and an unnamed tributary of Snow Creek run parallel to the western border of the site (Plate 4, 6, & 8). The unnamed tributary of Snow Creek flows directly into Snow Creek at the southern border of the property (Plate 7). The site is located directly across from the former Anniston Manufacturing (more recently Chalk-Line Inc.) textiles operation.

The L & N Railroad Depot site is on level ground. Sheet flow is into a channelized unnamed tributary of Snow Creek (Plates 5 & 7). There were no well-defined erosion channels present at the time of the April 18, 2000 site investigation. The area immediately north of the depot contains two residences and two businesses; Precision Parts Rebuilders, which is out of business and an ABC store (Plates 6 & 8). The area immediately east of the site has an empty lot, a closed rooming house and the Opportunity Center operation. The area immediately to the west has two sets of railroad tracks and single former large textiles site that is in the process of being demolished. Thirty-nine residences are located on the west side of the former Anniston Manufacturing operation. The southern end of the property is bordered by an empty lot and out of business Malden Poultry Company.

The closest residences of which there are two are located to the north and upgradient of the site. The eastern residences are located one half mile of a mile away on Leighton Avenue. The southern residences are located more than one half of a mile south on Glen Addie Avenue. The western residences are located approximately 700 feet away Pine Avenue and its offshoot streets adjacent to Chalk-Line, Inc.

2.3 Operational History and Waste Characteristics

The depot known as Union Station in 1888 was originally founded and owned by Samuel Noble, one of the city's major founding fathers. At some undermined time frame, the site became the property of the L & N Railroad Company. Sanborn maps dated 1925 and 1940, and located in the Anniston Public Library provided the majority of the information on the site (Att. 11). The original site dates to the 1860's and through the years serviced the Anniston & Cincinnati RR, the Tennessee, Virginia, & Georgia RR, the Georgia Pacific RR, the Louisville & Nashville RR, and probably a host of others. Little is known of the actual operation undertaken at the site other than that the site was a fully operational train station for at least 75 years. There are no ADEM records of any types of waste being generated at this site.

3. GROUND WATER PATHWAY

3.1 Hydrogeologic Setting

The L & N Railroad Depot site is situated in southeastern Calhoun County in what is considered to be the Wiesner Ridges physiographic district of the Alabama Valley and Ridge physiographic section. The surface elevations for the Wiesner Ridges District typically range from 640 to 2100 feet above mean sea level (MSL) (Planert and Pritchett, 1989). The surface elevation at the site is approximately 680 feet MSL (Ref. 3, Att. 3 & 4).

Calhoun County is located northeast of the southern terminus of the Alabama section of the Appalachian Valley and Ridge physiographic province. This province is characterized by linear northeast-southwest trending valley and ridges that are underlain by metasedimentary and sedimentary rocks. The section of the Valley and Ridge located in Calhoun County is subdivided into the Cahaba Ridges district, the Cahaba Valley district, the Coosa Ridges district, and the Coosa Valley district. The ridges consist of resistant sandstone and chert-bearing units and the valleys consist of carbonate rocks and shale. Rock units in Calhoun County range in age from Cambrian to Pennsylvanian and have been deformed by folding and thrust faulting (Tew, 1986).

The L & N Railroad Depot site is located within the outcrop area of the Cambrian age Shady Dolomite. The Cambrian age Shady Dolomite is described by Moser and DeJarnette, 1992, as: Bluish-gray or pale-yellow thick bedded siliceous dolomite with coarsely crystalline porous chert. Thickness range of the Shady Dolomite below Calhoun County is approximately 500 feet (Att.s 2 thru 4) (Ref. 3).

Consolidated sedimentary rocks that range in age from the Cambrian to Pennsylvanian underlie the majority of Calhoun County These rocks have been sharply folded into a series of northeast trending anticlines and synclines complicated by thrust faults. In the extreme southeastern portion of the county metamorphic rocks of the Piedmont have been thrust up to the northwest and overlie sedimentary of Cambrian and Ordovician age.

An unnamed fault traverses approximately .2 miles to the southwest of the site, another unnamed fault traverses approximately .5 miles to the northeast of the site, the Jacksonville Fault traverses approximately 1.2 mile to the northwest of the site, and the Cartersville Fault traverses approximately 1.75 miles to the southeast of the site. The site is located in an area that is highly susceptible to karst formation and, therefore, correspondingly susceptible to contamination from surface or near surface sources. The depth to the shallowest aquifer for the site could be as little as 25 feet (Att. 3).

3.2 Ground Water Targets

The L & N Railroad Depot site is located within the recharge area for the Valley and Ridge aquifer system, and in the outcrop area of the Shady Dolomite. Groundwater in these units occurs in interconnected solution channels containing potentially large amounts of water. Wells completed in the Shady Dolomites have yielded 69 to 472 gpm (Moser and DeJarnette, 1992).

There are two active public water supply wells located within 4 miles of the site (Att. 4, 5). The closest active public water supply well is operated by the Union Foundry, and is located approximately 1.2 miles to the northwest of the site. The other well is operated by the Lee Brass Company and is located approximately 3.75 miles to the southwest of the site. The site is not in a designated wellhead protection area; however, wellhead protection areas are located within four miles of the site (Ref. 3 & 10, Att. 4 & 16).

3.3 Ground Water Conclusions

The two active public water supply wells serving Lee Brass and Union Foundry are located within 4 miles of the site. New domestic and industrial wells could possibly be located within a four-mile radius of the site, and the wells that have been identified within a four-mile radius of the site could have been abandoned or may no longer be in use (Ref. 11). Even under the assumption that no release to groundwater has occurred, the L & N Railroad Depot site warrants further investigation due to the relative proximity to public water supply wells, the karst geology of the region, and the potential proximity to the shallowest aquifer.

The Anniston Water And Sewer Board receives no water from the aforementioned public water supply wells. No customers receive their public water from the City of Anniston via groundwater wells that could be subject to potential contamination from the L & N Railroad Depot site via the groundwater pathway (Att. 16, Ref. 10).

4. SURFACE WATER PATHWAY

4.1 Geomorphologic Setting

Surface water drainage from sheet flow appears to enter directly into a single unnamed tributary of Snow Creek and also directly to Snow Creek. The unnamed tributary is not listed in the ADEM Admin. Code R. 335-6-11-.02 with a use classification. However, it is noted in the regulations that segments not listed should be designated as Fish and Wildlife classification. The section of Snow Creek within 15 miles downstream of the site is listed with a use classification of Fish and Wildlife (Ref. 6). The overland drainage from the L & N Railroad Depot site is easterly and directly into two unnamed tributaries of Snow Creek, drainage will also occur directly to Snow Creek on the southern border of the property (Plate 7, Att. 5). Snow Creek flows approximately 2.8 miles southward into Choccolocco Creek. Choccolocco Creek continues for the remainder of the targeted 15-mile downstream surface water pathway.

In the 15-mile surface water pathway, Choccolocco Creek has an average flow of 343-cfs (Ref. 12, Att. 21). The lowest flow to which Choccolocco Creek will decline during 7 consecutive days on an average of once every 2 years of normal flow (7-day Q2) is estimated to be 53 cfs. The 7-day Q10 is estimated to be 34 cfs. (Ref. 5 & 12)

4.2 Surface Water Targets

The 15-mile downstream surface water pathway (SWP) begins at the L & N Railroad Depot site and flows to an unnamed tributary of Snow Creek on the site, to the south directly into Snow Creek and to the east into another unnamed tributary of Snow Creek. Snow Creek travels in a southern direction until it reaches Choccolocco Creek (Att. 5). Within the 15-mile SWP, the unnamed tributaries of Snow Creek, Snow Creek, and Choccolocco Creek all have the Fish & Wildlife classification (Ref. 6). Choccolocco Creek has a history of Fish Consumption Advisories (Ref. 15, Att. 22).

Along the entire targeted overland drainage and surface water pathways there are no known wetlands that could come in contact with water from the site (Ref. 1, Att. 5). The L & N Railroad Depot site, and the land along the banks of Snow Creek, Choccolocco Creek, and their tributaries might be critical to the support of many threatened and endangered terrestrial species. The following table lists the aquatic wildlife that is thought to have a high probability of being exposed to contaminants from the L & N Railroad Depot site if a substantial amount of hazardous constituents were to enter into the surface water pathway:

Common Name	*Listing*	*Distribution in Alabama*
Blue Shiner	Threatened	Coosa River
Upland Combshell Mussel	Endangered	Coosa River
Southern Acornshell Mussel	Endangered	Coosa River
Fine-Lined Pocketbook Mussel	Threatened	Coosa River
Alabama Moccasinshell Mussel	Threatened	Coosa River
Southern Clubshell Mussel	Endangered	Coosa River
Southern Pigtoe Mussel	Endangered	Coosa River
Ovate Clubshell Mussel	Endangered	Coosa River
Triangular Kidneyshell Mussel	Endangered	Coosa River
Tulotoma Snail	Endangered	Coosa River
Goldline Darter	Threatened	Calhoun County
Orange-nacre Mucket	Threatened	Calhoun County
Coosa Moccasinshell Mussel	Endangered	Coosa River

(Ref. 7 & 8; Att. 17, 18)

4.3 Surface Water Conclusion

A release to the surface water pathway is possible. Approximately half of the property is either paved or under roof. Soil samples taken on site also indicate contamination from PCBs, lead, and other heavy metals (Ref. 13 & 14, Att. 7, 8, 12, 23, & 24).

SAMPLE ID	Field Screening PCBs in ppm	XRF Screening Pb in ppm	XRF Screening Fe in ppm
PB-023-01	280	231 & 376	9625 & 10,796
PB-023-02	29	287 & 194	32,588 & 44,876

(Att. 7, 8, & 12)

The site's potential for further impacting Snow Creek, Choccolocco Creek, and their tributaries warrant additional study in this area. The ongoing evaluation of Anniston has indicated that flooding of properties during storm events is common. Since contaminants were identified onsite, there is a potential for offsite migration and deposition downgradient and or downstream. Current data indicates numerous residential properties in the vicinity of 11½ Street through 12th Street along Pine Street located to the west of the site have lead concentrations above 400 ppm based on XRF data. Further assessment is necessary to identify the source of the lead.

5. SOIL EXPOSURE AND AIR PATHWAY

5.1 Physical Conditions

The Soil Conservation Service (SCS) classifies soils at the L & N Railroad Depot site as Anniston gravelly clay loam, 2 to 6 percent slopes eroded (Ref.s 3 & 4, Att. 4). The soils in this classification are described by the SCS soils that have developed in old alluvium on foot slopes and fans along the bases of mountains. The surface layer consists of reddish-brown to dark brown gravelly loam, and is underlain by dark red to yellowish-red silty clay loam or clay loam. These soils are moderately permeable (Harlin and Perry, 1961).

5.2 Soil and Air Targets

There is a two-person demolition crew presently working at the L & N Railroad Depot site. Residences are located as close as 100 feet from the site. Nearest schools and student populations are listed in the table located on the following page.

	DATA ON SCHOOL SYSTEMS AND DIRECTION FROM SOUTHEAST REFRACTORIES, INC. (SRI)		
Distance Ring	School Name	**Direction from SRI**	**Population of School (School System)**
0.0-0.25	None	NA	0
0.25-0.5	Cobb Ave. Elementary E. Hall Headstart Randolph Park Elem.	W W N	356 A 260 P 234 A
0.5-1.0	Anniston High School	E	954 A
1.0-2.0	Constantine Elementary Norwood Elementary Sacred Heart Catholic School Tenth Avenue School	S N N E	234 A 343 A 190 C 178 A
2.0-3.0	Donoho School Calhoun Co. Area Vocational School Johnston Elementary Saks Elementary Saks Middle Saks High School	SE S S N N N	530 P 28 CC 383 A 794 CC 511 CC 865 CC
3.0-4.0	None	NA	0
Total Number of Schools: 14		Total Population	5,860
Schools system designations: A = Anniston City Schools; C = Catholic Schools; CC = Calhoun County Schools; P = Private Schools			

(Att. 20)

No daycare operations were observed within 1/2 of a mile of the site during the reconnaissance. According to the Alabama 1990 census records, the average number of people living in homes located in Calhoun County, Alabama is 2.59 residents per household (Att. 19). In the following table, the total population within the target area has been broken down into sub-populations that live within each specified distance radius from the site: (The table is on the next page.)

DISTANCE FROM SITE	*POPULATION*
¼ Mile	496
½ Mile	1976
1 Mile	4909
2 Miles	11332
3 Miles	9859
4 Miles	11007
TOTAL POPULATION	**39083**

(Att. 5 & 19)

None of the L & N Railroad Depot site is considered to be a wetland environment. Within the 4-mile target area and the 15-mile surface water pathway are no known wetlands. It is not known if the L & N Railroad Depot site is a critical habitat for federally designated endangered or threatened species, but the table located on the next page lists the terrestrial species that may utilize the land and surface waters located within the specified target areas:

Common Name	*Listing*	*Distribution in Alabama*
Florida Panther	Endangered	Statewide
Bald Eagle	Threatened	Statewide
Red Wolf	Endangered	Statewide
Backman's Warbler	Endangered	Statewide
Wood Stork	Endangered	Statewide
Ivory-billed Woodpecker	Endangered	South, West-Central
Red-cockaded woodpecker	Endangered	Statewide
Gray Bat	Endangered	Calhoun County
Indiana Bat	Endangered	Calhoun County
American Pergrine Falcon	Endangered	Statewide
Eskimo Curlew	Endangered	Statewide
Bachman's Warbler	Endangered	Statewide

(Ref. 7 & 8, Atts 17 & 18)

5.3 Soil Exposure and Air Pathway Conclusion

Soil samples taken on site indicate contamination from PCBs, lead, and other heavy metals (Att. 7, 8, & 10). There are no obvious air targets or potential air migration pathways evident at the L & N Railroad Depot site. During operation of the facility, air releases could have been possible.

6. SUMMARY AND CONCLUSIONS

No records exist in identifying the exact types and volumes of wastes disposed, or otherwise released at the L & N Railroad Depot site. A search for industrial wastewater, LUST, and UST records was negative. Current conditions indicate that the known existing contamination at this site has the potential to impact both groundwater and surface water. Additionally, contaminants lost from the site could conceivably be redeposited at other areas that are down gradient.

Due to the site's relation to the pathways to groundwater and surface water, the potential for migration along these pathways clearly exists. Because of this potential for contamination, and the size of the population such contamination could, theoretically, effect, it is recommended that the L & N Railroad Depot site be further evaluated under the authority of CERCLA/SARA.

7. REFERENCES

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3. Alabama Department of Environmental Management. Memorandum. Gibson, Joe, Groundwater Branch, March 3, 1999. Preliminary Assessment – Groundwater. L & N Railroad Depot.

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6. Alabama Department of Environmental Management; Water Division - Water Quality Program, 1997, Water Use Classification for Interstate and Intrastate Waters, Chapter 335-6-11.

7. Alabama Department of Conservation and Natural Resources. Alabama Game and Fish Division. Federally Listed Endangered/Threatened Species of Alabama. August 8, 1997.

8. U.S. Fish and Wildlife Service. Daphne Field Office. Alabama's Federally Listed Species (By County). September 1997.

9. Federal Emergency Management Agency. Federal Insurance Administration. Flood Insurance Rate Map #010023 0003 C. City of Anniston, Alabama. Revised February 3, 1993.

10. Alabama Department of Environmental Management, Federal Reporting Data System (FRDS-II), Public Water Supply Summary for Selected Areas of Calhoun and Talladega Counties.

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13. Analysis Paper: Impact of Lead-Contaminated Soil on Public Health, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, Public Health Service, Agency for Toxic Substances and Disease Registry.

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REFERENCE 2

ANNISTON FAA AIRPORT, ALABAMA (010272)

Period of Record Monthly Climate Summary

Period of Record : 2/1/1903 to 12/31/2007

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	54.0	58.0	66.2	74.7	81.8	87.9	90.4	90.1	84.9	75.4	64.9	56.3	73.7
Average Min. Temperature (F)	33.0	35.3	42.1	49.3	57.7	65.2	69.0	68.3	62.4	50.2	40.4	34.2	50.6
Average Total Precipitation (in.)	4.91	4.90	5.93	4.69	4.08	4.16	4.52	3.55	3.40	2.57	3.92	4.45	51.09
Average Total SnowFall (in.)	0.7	0.4	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	1.6
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0

Percent of possible observations for period of record.
Max. Temp.: 98.1% Min. Temp.: 98.1% Precipitation: 98.1% Snowfall: 95.1% Snow Depth: 95.1%
Check Station Metadata or Metadata graphics for more detail about data completeness.

Southeast Regional Climate Center, sercc@climate.ncsu.edu

ANNISTON FAA AIRPORT, ALABAMA

Period of Record General Climate Summary - Temperature

From Year=1903 To Year=2008													
Station:(010272) ANNISTON FAA AIRPORT													
Averages Daily Extremes													
	Monthly Averages			Daily Extremes				Monthly Extremes				Max. Temp.	
	Max.	Min.	Mean	High	Date	Low	Date	Highest Mean	Year	Lowest Mean	Year	>= 90 F	<= 32
	F	F	F	F	dd/yyyy or yyyymmdd	F	dd/yyyy or yyyymmdd	F	-	F	-	# Days	# Da
January	54.0	33.0	43.5	80	10/1949	-5	21/1985	57.7	50	32.2	77	0.0	0
February	58.0	35.3	46.6	84	13/1962	-4	14/1905	54.8	57	33.2	5	0.0	0
March	66.2	42.1	54.2	89	31/1963	12	14/1993	62.6	45	44.2	60	0.0	0
April	74.7	49.3	62.0	93	17/1955	26	17/1905	67.7	81	57.6	83	0.2	0
May	81.8	57.7	69.8	98	16/1962	34	13/1960	75.3	62	64.8	54	3.6	0
June	87.9	65.2	76.6	104	28/1931	42	01/1972	81.0	52	70.1	3	12.6	0
July	90.4	69.0	79.8	105	13/1980	50	15/1967	83.8	80	76.0	47	18.6	0
August	90.1	68.3	79.2	106	21/1983	50	28/1952	85.2	107	75.1	67	17.9	0
September	84.9	62.4	73.7	101	20/1931	34	30/1967	78.8	31	67.4	67	8.1	0
October	75.4	50.2	62.8	99	05/1954	22	30/1952	69.7	84	55.7	52	0.4	0
November	64.9	40.4	52.6	88	02/1974	5	25/1950	61.5	85	45.4	76	0.0	0
December	56.3	34.2	45.2	80	07/1951	1	13/1962	54.3	71	36.8	63	0.0	0
Annual	73.7	50.6	62.2	106	19830821	-5	19850121	64.1	107	60.3	68	61.4	1
Winter	56.1	34.2	45.1	84	19620213	-5	19850121	51.8	50	36.0	5	0.0	1
Spring	74.3	49.7	62.0	98	19620516	12	19930314	65.2	46	58.3	71	3.8	0
Summer	89.5	67.5	78.5	106	19830821	42	19720601	81.3	54	75.3	67	49.1	0
Fall	75.1	51.0	63.0	101	19310920	5	19501125	66.7	85	58.5	76	8.4	0

Table updated on Jul 14,
For monthly and annual means, thresholds, and sums:
Months with 5 or more missing days are not considered
Years with 1 or more missing months are not considered
Seasons are climatological not calendar seasons
Winter = Dec., Jan., and Feb. Spring = Mar., Apr., and May

Summer = Jun., Jul., and Aug. Fall = Sep., Oct., and Nov.

Southeast Regional Climate Center, SERCC staff

Tax Assessment Report

Parcel Number: 21-03-06-4-005-063.001 Tax Year: 2008

Pin Number: 18889

Owner Information:

Owner: STEPHENSON JIMMY W & C ANN

Property Address: (b)(6) Personal Privacy

Mailing Address: (b)(6) Personal Privacy
(b)(6) Personal Privacy

Value and Tax Information:

Use Value: $0

Total Appraised Value: $109,660

Improvement value: $40,060

Assessed Value: $21,940

Land value: $69,600

Exemption:

2007 Taxes Due:

2007 Taxes Paid: undefined

2008 Estimated Taxes Due: $1,129.91

Land Information:

Lot Dimensions:

Deeded Acres: 0.00

Tax District: Anniston

Legal Description:

SEC 06 TSP 16 RNG 08 A PARCEL IN SE 1/4 SEC 6 DESC AS BEG 154.4 W OF SW INT WALNUT & W 14TH TH S 125 E 20 SE 127.49 E 125.7 S 289.5 NW 152.64 NW 547.82 E 103.79 TO POB ANNISTON ALS6 T16 R8 237-6986 WORK NATIONAL HISTORIC RE GISTER

Subdivision Name:

Plat Book / Page:

Sales Information:

Date	Sale Price	Grantee	Deed Book	Deed Page
9/1995	$0	STEPHENSON JIMMY W & C ANN (SWD)	1952	00621

Improvement 1

Class: WAREHOUSE, STORAGE

Total Area: 11012

Value: $37,360

Stories: 1

Year Errected: 1890

Effective Age: 115

Year Remodeled: 0

Total Rooms: 4

Construction Details:

Roof: 100% wood truss, wood using 100% asphalt shingles

Exterior Walls: 50% brick on masonry and 25% wood frame, no siding and 25% c.b., split face

Interior Walls: 100% wood ceiling board

Flooring: 100% pine, double

Heat and Air: none

Extras: restroom 2 fixture

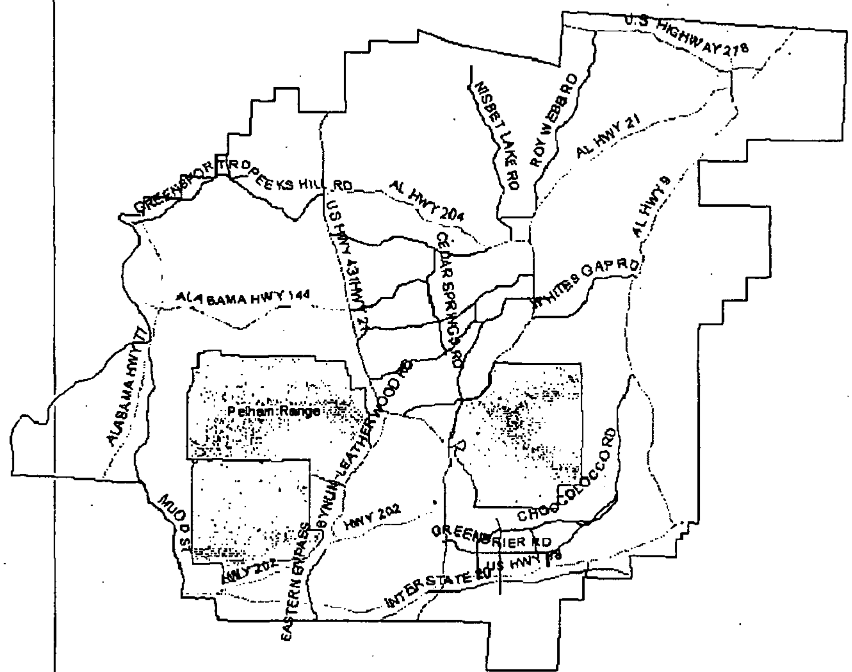
Additional Construction Details:

Description:	Total Area:
base area	10738

canopy and loading dock on warehouse 913

Improvement 2

Class:	FENCE, CHAIN LINK, 6' CONCRETE					Total Area:	900
Value:	$2,700	Stories:	0				
Year Errected:	0	Effective Age:	0	Year Remodeled:	0	Total Rooms:	0



Calhoun County Disclaim

Information deemed reliable but not guaranteed.

REFERENCE 4

Tax Assessment Report

Parcel Number: 21-03-06-4-005-063.000

Tax Year: 2008

Pin Number: 18888

Owner Information:

Owner: MCWHORTER EARLON C

Property Address: [redacted]

Mailing Address: [redacted]

Value and Tax Information:

Use Value: $0

Total Appraised Value: $421,700

Improvement value: $353,640

Assessed Value: $84,340

Land value: $68,060

Exemption:

2007 Taxes Due:

2007 Taxes Paid: undefined

2008 Estimated Taxes Due: $4,343.51

Land Information:

Lot Dimensions:

Deeded Acres: 0.00

Tax District: Anniston

Legal Description:

SEC 6 TSP 16 RNG 08 A PARCEL IN SE 1/4 SEC 6 DESC AS BEG SWIN W 12TH & WALNUT AVE TH W 94.24 NW 407.35 SE 152.64 S 19.86 E 20 S 380 TO POB ANNISTON AL S6 T16 R8

Subdivision Name:

Plat Book / Page:

Sales Information:

Date	Sale Price	Grantee	Deed Book	Deed Page
5/2001	$0	MCWHORTER EARLON C (WD)	3007	508
7/1993	$50,000	JENKINS JULIAN W (WD)	1882	00119
12/1992	$0	JENKINS JULIAN W (QCD)	1882	00130
12/1992	$0	JENKINS JULIAN W (QCD)	1882	00128

Improvement 1

Class: OFFICE-GENERAL

Total Area: 2709

Value: $88,920

Stories: 2

Year Errected: 1890

Effective Age: 115

Year Remodeled: 0

Total Rooms: 8

Construction Details:

Roof: 100% wood truss, wood using 100% metal, stand. se

Exterior Walls: 100% brick on masonry

Interior Walls: 50% painted and 50% drywall (sheetrock)

Flooring: 100% pine, double

Heat and Air: fha / ac

Extras: restroom 2 fixture

Additional Construction Details:

Exterior Walls: 100% metal, corrugate

Interior Walls: 100% not applicable

Flooring: 100% pine, double

Heat and Air: fha / ac

Extras: office lowcost open, restroom 2 fixture

Additional Construction Details:

Description:	Total Area:
base area	4960
canopy on warehouse, no pavement	40
open porch floor, roof, and posts	840

Improvement 5

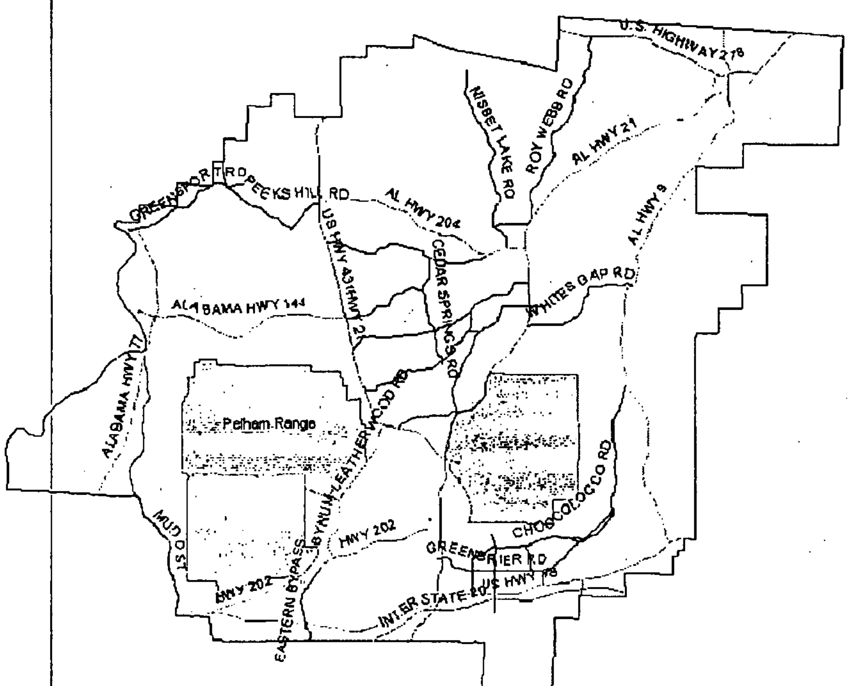
Class:	FENCE, CHAIN LINK, 6' CONCRETE					Total Area:	640
Value:	$2,480	Stories:	0				
Year Errected:	0	Effective Age:	0	Year Remodeled:	0	Total Rooms:	0

Improvement 6

Class:	PAVING, CONCRETE REINFORCED 4"					Total Area:	2500
Value:	$2,540	Stories:	0				
Year Errected:	0	Effective Age:	0	Year Remodeled:	0	Total Rooms:	0

Improvement 7

Class:	LIGHT POLE & FIXTURE					Total Area:	7
Value:	$7,560	Stories:	0				
Year Errected:	0	Effective Age:	0	Year Remodeled:	0	Total Rooms:	0



Calhoun County Disclaim

Information deemed reliable but not guaranteed.

REFERENCE 5

The Anniston Star
www.annistonstar.com

EDITORIALS

Mourning for the departed: Preserving Anniston's relics

In our opinion
12-30-2008

Venerable buildings have souls. Be they brick, stone or wood, historic structures are irreplaceable relics that tell tales as if they were as human as those who once inhabited them.

It is a funereal event, a day of mourning, when they are lost.

Sunday morning, Anniston awoke to the grim news that one of its soul-filled buildings — the vacant L&N train depot — had been destroyed by an overnight fire. The passenger depot, dating to the mid-to-late 1880s, opened during Anniston's formative years as Union Depot, the place visitors would disembark and form their first opinions about the fledgling industrial settlement of Sam Noble and Daniel Tyler.

The depot, on Walnut Avenue just west of Noble Street and just south of the Anniston Inn, provided travelers perfect access to downtown shops, east-side homes and west-side industrial sites. Simon Jewell, the famed English stonemason whose craftsmanship is showcased in many of Anniston's 19th-century structures, constructed the depot's stone exterior; the building itself was a fine example of Richardson Romanesque style of architecture.

Alas, years of inactivity had taken a toll. Passenger train service stopped in 1951, and local businesses that used the building had long since withered away. Earlier this year, the Alabama Historic Commission and the Alabama Trust for Historic Preservation placed the depot on its "Places in Peril" list — a symbolic but important gesture that brought much-needed attention to the need of preserving the architectural treasures still standing in the Model City.

Historic preservationist David Schneider, in his application to the "Places in Peril" list, called the Union Depot "one of Anniston's most significant historical and architectural landmarks." Of that there is no argument.

Of course, that's past-tense now; the depot was a broken heap on Monday, its rubble smoldering in the December sun. Indeed, it is a day of mourning for those who value the consequence of the city's historic buildings. It's a blessing nevertheless that there are those in Anniston who agree with this premise.

The Union Depot was not alone on the "Places in Peril" register; two other Anniston sites, the Ritz Boarding House and the Anniston Land Co. building, joined the depot on that list. On Anniston's east side, Dr. Carla Thomas's effort to restore three Noble Park homes — Crowan Cottage, the Hamilton House and the Johnson House — is one of the more enlightened preservation projects in recent years.

Many of Anniston's historic centerpieces have been gone for decades; the Woodstock Iron Co., the Anniston Inn, the Opera House, "The Pines" of Edmund Tyler, and many others, are no more. For most of those, grainy photos are all that's left.

But those that survive remain vital parts of this city. Their souls are alive. We are in mourning for those departed, but grateful for those still among us.

About our editorial page

Address letters to Speak Out, The Anniston Star, P.O. Box 189, Anniston, AL 36202. Please limit letters to 200 words. Letters may be edited for length, libel and taste. All letters are confirmed with the author before publication.

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Type your comment here.

Unclaimed D Register with DISQUS Why?

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REFERENCE 6

EALTH CONSULTATIC I

Public Comment Release

EVALUATION OF SOIL, BLOOD & AIR DATA FROM ANNISTON, ALABAMA CALHOUN COUNTY, ALABAMA

CONCLUSIONS

1. ***PCBs in soil in some areas of Anniston present a public health hazard based on the potential for chronic cancerous and noncancerous health effects.***

   Detections of PCBs occur frequently in residential areas and the levels are high enough to indicate that a hazard does exist even if analytical methods have resulted in overestimates in some cases.

   Furthermore, residential soils in some areas of Anniston with higher levels of PCBs may present a public health hazard for thyroid and neurodevelopmental effects for intermediate exposure durations (less than 1 year of exposure).

2. Further characterization of areas reported to have elevated PCB levels is needed so that exposure point concentrations can be more accurately estimated and so the nature and extent of contamination can be better defined. Blood PCB data should be analyzed in conjunction with residential history information to aid in the identification of areas of potential soil PCB contamination.

3. Persons with elevated blood PCB levels (greater than 20 μg/L) for whom there is evidence of current exposure to soil contamination should be a focus of particular attention in future environmental characterization and public health actions.

4. Sampling and analytical methods are not adequately described for all of the data. This lack of information has caused us to make estimates of PCB exposure that may overestimate or underestimate health risk. For this reason, our estimates of exposure magnitude and our public health conclusions might change.

5. The reports of elevated blood PCBs in young children support the conclusion that exposures to PCBs have not ceased. The magnitude of PCB levels in blood in older persons (i.e., 41 of the persons aged 38 years or older had levels greater than 100 g/L) suggests that PCB exposures may have been more severe in the past. The higher proportion of detections of PCBs in the blood of older persons suggests that PCB exposures were more widespread in the past.

6. ***Exposures to PCBs in air present an indeterminate public health hazard.*** Uncertainty about the levels of PCBs in the air near Solutia over chronic exposure durations, combined with uncertainty regarding air levels to which persons would be exposed at their homes precludes a determination of whether PCBs in air presents a health hazard. Further characterization of the air pathway is needed so that exposure point concentrations can be estimated for persons living near the air monitors at which elevated PCB levels have been detected. Further characterization is also needed to define the limits of the area with elevated air levels for PCBs.

7. ATSDR's evaluation of the health hazard potential, particularly with regard to the size of the exposed population and the levels and duration of exposure, is limited by data gaps. Further sampling and evaluation are needed.

8. Exposures to the pesticides DDT and chlordane at levels of health concern are also possible; however,

given the levels in the available samples, it does not appear that exposures to pesticides are widespread. Too few samples were analyzed for pesticides to allow a more certain conclusion as to whether exposures to pesticides are occurring.

RECOMMENDATIONS

Following are ATSDR's recommendations, listed in order of priority.

1. Sample soil to assess whether average exposure point concentrations exceed levels of health concern for persons living at residences likely to be contaminated. Define "likely" as proximity to Solutia or PCB detections in the Community Group 1 or Community Group 2 data sets. Use blood PCB levels in conjunction with residential history information to help define areas where exposure point concentrations exceed levels of health concern.

2. Develop a site investigation plan (including records search and air and soil sampling) that addresses the potential for sources and local areas of PCB, dioxin/furan, and pesticide contamination.

3. Analyze CAP survey results along with residential and occupational information collected by Community Group 1 to characterize persons who have elevated blood PCB levels. Use this analysis for soil sampling plans and identification of environmental sources and pathways. Also use these analyses to help determine the need for exposure investigations (in coordination with the development of any studies of health effects) and to describe the size and geographic spread of the population with elevated blood PCBs.

4. Use future studies of health effects to be developed in consideration of community concerns. In addition, important data gaps could be filled through the study of PCB health effects in this highly exposed population. Primary consideration should be given to evaluation of specific health effects that have previously been associated with PCB exposure.

5. Use physiologically based pharmacokinetic modeling to describe the range of soil or air PCB exposure point concentrations that could conceivably lead to the observed blood PCB levels. This will improve our understanding of the likelihood that known soil or air levels could have caused the observed blood PCB levels.

6. Analyze spatial and temporal relationships between blood, soil, and air data in conjunction with additional data regarding residential, behavioral, and occupational history to determine the association, if any, between environmental contamination (in soil and air) and blood contamination.

7. Determine health education needs relevant to PCB exposure for this community.

PUBLIC HEALTH RESPONSE PLAN

A Public Health Response Plan is being developed to address the recommendations made in this consultation [38]. The Public Health Response Plan has been shared with EPA, Alabama Department of Environmental Management, and ADPH so that all agencies can coordinate their activities to better define the extent of environmental contamination and human exposures. Follow-up actions will be considered in coordination with the local community.

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Appendix A - *Previous ATSDR activities and site description*

Previous Agency for Toxic Substance and Disease Registry (ATSDR) and Alabama Department of Public Health (ADPH) activities in the West Anniston area

In 1995 and 1996, ADPH (under a cooperative agreement with ATSDR) assessed the potential for health effects caused by PCB contamination at this site. A health consultation was prepared in 1995 concerning PCB contamination discovered in soil and sediment at the West End Landfill (WEL) and in the Eastern Drainage Ditch (EDD) [39]. ADPH concluded that exposure to soil and sediment in WEL, EDD, Snow Creek, and Choccolocco Creek presented a public health hazard. ADPH recommended additional soil sampling to delineate areas where contaminant concentrations are high and an exposure investigation (EI) to determine the impact of offsite contamination on area residents.

In early 1996, ADPH and ATSDR conducted an EI for one West Anniston neighborhood near the Solutia facility [40]. The exposure investigation examined blood PCB levels for 103 persons in the Cobbtown/Sweet Valley Community (CT/SVC). Soil and indoor dust samples were also collected and examined for the EI. CT/SVC was described in the EI as an "old neighborhood that is comprised of approximately 35 houses, 2 churches, and 8 businesses" (Figure 7). Most of the houses considered in the 1996 EI have been purchased and demolished by Solutia. The EI found that PCB levels were elevated compared to background levels and levels of health concern in soil, sediment, indoor dust, and surface water. The EI also observed that a weak correlation existed between PCB levels in the soil and blood levels. The EI concluded that PCBs in soil, sediment, indoor dust, and surface water in CT/SVC was a public health hazard. The EI recommended sampling of residential yards in the area of CT/SVC.

ADPH prepared a public health assessment that considered soil PCB sampling (of drainage ditches and flood plain near the Solutia facility) conducted by Solutia prior to 1996 [41]. The data sets provided by EPA addressed in this consultation consisted of soil and air sampling data generated since 1996. The blood PCB data were also generated since 1996. The consultation presents conclusions regarding the potential for human health effects primarily for PCB contamination and exposure; however, a small number of soil samples describing pesticide contamination and a small number of blood dioxin analyses were also considered.

Site description

Brief description of the Solutia manufacturing facility. One presumed source for PCBs described in soil and air in at least some of the samples reviewed is the Solutia manufacturing facility in West Anniston (Figure 1). Other sources for PCB contamination may exist, but have not been clearly demonstrated to date. Other potential sources for contaminati... should considered in an additional health ass nent for the site and when a potential remediation is planned. However, the conclusions of this consultation do not rely on a definitive catalog of sources, so only a brief description of the one demonstrated source (Solutia) is provided.

The Solutia manufacturing facility is located one mile west of downtown Anniston on State Highway 202 in Calhoun County, Alabama. The facility is situated on approximately 70 acres and is bordered on the south by Highway 202, on the east by the Clydesdale Avenue extension, on the west by First Avenue, and on the north by the Norfolk Southern and Erie Railroads. The area north of Solutia contains residential, commercial, and industrial properties. Residential properties are also located east and west of the site (Figure 1) [42,43,44].

Chemical manufacturing has occurred at this site for more than 80 years. Monsanto produced hundreds of millions of pounds of PCBs in the U.S.[45] and the Anniston facility was one of 2 Monsanto PCB production facilities in the U.S. Millions of pounds of PCB-containing waste from that production may have been disposed of onsite.

In 1917, Southern Manganese Corporation began manufacturing ferro-manganese, ferro-silicon, ferro-phosphorus compounds, and phosphoric acid at the site. In the late 1920s, production of biphenyls was initiated. In 1930, Southern Manganese Corporation became Swann Chemical Company. Monsanto purchased Swann Chemical Company in 1935, and began manufacturing PCBs, parathion, phosphorous pentasulfide, para-nitrophenol, and polyphenyl compounds. Monsanto ceased production of PCBs in the early 1970s and ceased production of parathion and phosphorous pentasulfide in the mid-1980s. The Anniston facility now operates as Solutia, Incorporated. Para-nitrophenol and polyphenyl compounds are now manufactured at the site [46,47].

Landfills. Hazardous and nonhazardous wastes were disposed of at two landfills located adjacent to the Solutia manufacturing plant; the West End Landfill and the South Landfill (Figure 7).

The West End Landfill was a six-acre plot located on the southwest side of the manufacturing facility, north of Highway 202. The unlined landfill was used for disposal of all refuse from the facility from the mid 1930s to 1961. In November 1961, the West End Landfill and an adjacent property were exchanged to the Alabama Power Company. With the closure of the West End Landfill, Solutia began disposing of wastes at the South Landfill.

The South Landfill was located southeast of the manufacturing facility, south of Highway 202. It sits on the lower northeast slope of Coldwater Mountain. The South Landfill was divided into 10 individual cells, each intended to hold a specific type of waste. Due to disposal practices, there are two categories which can describe the cells, hazardous and non-hazardous. Operations at the South Landfill ended in 1988.

Some of the waste was from PCB manufacture and there is reference to millions of pounds of "still bottoms" and a manufacturing byproduct called "Montars" being deposited in open, uncovered piles until approximately 1970. Montars have been described as high-chlorine distillation residue from the PCB manufacturing process used by Monsanto prior to 1970 [48]. Surface stabilization measures constructed around the Solutia facility in 1971 are likely to have reduced the potential for offsite transport of PCBs [49].

Key surface water features. Snow Creek flows through Anniston north of the Solutia facility. A tributary of the creek begins northwest of the Solutia facility, and flows northeast until it reaches Boynton Street. It then flows south through residential and business areas. Snow Creek empties into Choccolocco Creek south of Interstate I-20.

East Drainage Ditch (EDD) begins in the area of the South Landfill just southeast of the Solutia facility. It flows northward through the Clydesdale community (between Clydesdale Avenue and Zinn Parkway) east of the Solutia facility and is joined south of Seventh St. by Solutia's waste water discharge ditch (which originates from an old limestone neutralization bed). The EDD continues along east of Montrose Avenue and Boynton Street, crosses under 10th Street and the the Norfolk, Southern, and Erie railroad tracks at 11th Street, and empties into Snow Creek.

Northern Drainage Ditch (NDD) consists of a series of ditches that run along the northern boundary of the olutia facility. The NDD crosses north under railroad tracks to the southern ends of Bancroft and Duncan Streets, and then follows the railroad tracks northeast to join the EDD and Snow Creek. Most of the EDD consists of silt and clay, but some parts are concrete and extend below ground. The western end of the NDD appears to have some westerly flow. but the remaining portion of the NDD flows toward Snow Creek. Western Drainage Ditch (WDD). located west of the West End Landfill at the southwest corner of the Solutia facility. It runs north along the facility boundary east of 1st Avenue until it meets up with the NDD.

A site visit of the EDD and Snow Creek was performed by ATSDR and ADPH. Several important features were noted. Access was not restricted and human activity was evident in many areas. The upstream portion of Snow Creek flows through a concrete liner while the downstream portion remains unlined. The EDD averages roughly 2-3 feet deep and 3-5 feet wide, except in the Spring Street area where the ditch is 5-6 feet deep and approximately 5 feet wide. Also, the ditches have been known to flood during rain events. During meetings in Anniston on September 15 and November 9, 1999, community members told ATSDR that oily residue had (i.e., 20 years ago) frequently been observed on water flowing from the Solutia facility in the. drainage ditches, an observation also made by others [50].

Other potential sources for the contamination observed in environmental samples. Statements made by community members during public meetings in Anniston, and in letters and documents provided by Solutia suggested that other sources for PCBs are possible in addition to the Solutia facility. It has not been established that offsite PCB contamination is solely the result of air or surface water transport from PCB wastes generated by Solutia. ATSDR is not aware of additional investigations that identify other sources of PCB contamination. The additional sources suggested for PCB contamination in Anniston include foundry sand from metal casting operations and transformers and capacitors at an electric power substation.

Appendix B. - *Dioxin Comparison Levels*

Comparison values for dioxin-like compounds in blood serum are listed in Table 7. To derive these values, ATSDR pooled data from five studies that measured dioxin levels in residents of the United States who had no known exposure to dioxins, other than typical background levels. The studies contained a total population of approximately 360 persons from five states. The blood samples were collected during the time period, 1995 to 1998. The National Center for Environmental Health of the Centers for Disease Control and Prevention in Atlanta, Georgia, conducted the laboratory analyses using gas chromatography/isotope dilution-high resolution mass spectroscopy.

In some samples, the concentrations of one or more congeners were reported as not detected. For the statistical summary of total TEQs across the eight studies, the concentration of a non-detected congener was assumed to be one-half of the analytical detection limit. In some of the studies, analytical data (including detection limits) for one or more congeners were missing in some individuals because of analytical difficulties. For these persons, the TEQ concentration of the non-reported congener was assumed to be equal to the average TEQ for that congener for all other persons in their study. Two congeners (123478D and 123678D) were not reported for any persons for several of the studies. For the studies where these congeners were missing, the replacement value used was the average of the TEQ concentration for the congeners from studies where the congeners were reported.

The comparison levels in this report were based on a preliminary analysis of the available data. ATSDR will ubmit a more detailed report of these analyses and findings to a peer-reviewed, scientific journal for publication.

Appen C. - *Health concerns expressed by th mmunity*

During a November 9, 1999, public meeting in Anniston, approximately 75 community members expressed concerns regarding health effects (summarized in Table 11). [51]

Table 11. Self-Reported Health Concerns from Public Availability Session in Anniston, Alabama

Self-Reported Health Concerns	Number of Reports
Cancer	50
Cardiovascular Problems	46
Respiratory Problems	43
GI Problems	24
Skin Problems	22
Endocrine Problems	18
Musculoskeletal Problems	17
Birth Defects/Learning Disabilities	14
Immune Problems	12
Neuro Problems	11
Headaches	9
Blood Problems	7
Eye Problems	6
Kidney Problems	6
Infections	5
Reproductive Problems	4
Fatigue	4
Prostate Problems	1
Total	299

Community members also expressed complaints of odors which they attributed to the Solutia facility. The odors were described by some as resembling "rotten eggs" or "rotten cabbage" or "diesel fuel." Others described yellow dust settling on clothes and smoke or haze coming from or being seen in the area of the Solutia facility. Some stated that smells and dust were more prevalent in the 1960s. In addition, many persons expressed a desire to have their blood tested for PCBs [52].

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6. Blood sample analysis was performed by one of the major commercial clinical laboratories that provides healthcare services in the United States (LabCorp). The Company's facilities perform diagnostic procedures on specimens from more than 240.000 patients each day. The laboratory offers more than 2.000 different clinical tests ranging from simple blood analyses to more sophisticated molecular diagnostic techniques.

   Test results are routinely monitored for reliability, precision, and accuracy by both internal and external quality control programs, including the College of American Pathologists. Continued acceptable performance on these surveys is a prerequisite for continued licensure and certification of the laboratory. The laboratory voluntarily participates in more than 20 external quality control programs and is inspected by state, federal, and private accrediting agencies. Standard operating procedures (SOPs) include repeat of assays when controls are out of established ranges or where the coefficient of variation for the assay is too high. It is also the policy of the laboratory to repeat individual samples that are significantly abnormal clinically or where duplicate test results disagree. The laboratory is accredited under the Clinical Laboratory Improvement Act (CLIA).

   PCB analysis was performed using high resolution gas chromatography/electron capture detector [HRGC/ECD] technique. The serum samples were analyzed for total PCB levels including aroclors 1254 and 1260. Results were as total PCB in units of g/L; no lipid-adjustments were done. No congener specific analyses were performed. The detection limit for this assay is reported to be 5 g/L. For PCB analysis, the laboratory used Alltech standards and NIST controls. Each assay "run" included two levels of controls as well as standards. Since a typical assay "run" includes less than 20 samples per run, the typical QC to sample ratio is very high.

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[a] Results for four persons were listed as <3.0; however, text on the first page of the list states that detection limits are 5.0 μg/L. For the purpose of deriving descriptive statistics for this consultation, we will assume a detection limit of 5.0 μg/L unless the list reported "<3.0" for an individual. In addition, results for five persons either were not stated or were indecipherable.

[b] Blood analysis results were reported as micrograms of Aroclor 1254 or 1260 per liter of blood serum.

The 95th percentile is the value (in this case the blood PCB value) below which 95 percent of all other values fall. The term "typical" is used in the sense that those above "typical" are likely to have been exposed to PCBs in a way that is not "typical" for the U.S. population in general. PCBs are man-made, so there is no "naturally occurring" level in blood.

[d] The 2-year-old child with 17.2 μg/L PCBs had lived near the Solutia facility since birth. PCBs were not detected in the blood of the child's mother.

[e] The term geophagia refers to eating clay as a cultural or folk-medicine practice.

[f] The term "sources" in this context refers to places where people came into contact with the PCBs that are now found in their blood. We are not referring to the original maker of the PCBs, nor are we specifically referring to release points from the Solutia facility.

[g] The average of the EPA and Solutia observations over a 3 day period, as shown in Table 8.

[h] Several samples are available for each of about 10 of the 600 residences sampled. An appropriate averaging area for exposure point concentration over long term residential soil-ingestion exposure pathway is the "yard" of a house including significant play or gardening areas near a house. However, ATSDR has not received descriptions of the sampling locations near particular houses for this site. Therefore, ATSDR can not determine which statistical summary of available samples for a house would be more representative of the long term exposure point concentration for houses with several samples. For this reason, the maxima for a residence is used as a conservatively protective measure of averaged exposure point concentration for the residential soil-ingestion exposure pathway.

[i] An exposure point concentration is the concentration of the contaminant in the soil that an individual contacts. To estimate the dose that someone gets of a contaminant, we need an estimate of the average exposure point concentration of all the soil that a person has contacted. A PCB level taken from an area of someone's yard that is not visited very often may either underestimate or overestimate he average exposure point concentration for the individual.

[j] The "internal dose" of a given PCB congener to affected organs is related to the blood level of that congener, even if the environmental source of the PCBs has long since disappeared.

REFERENCE
7

Alabama Department of Environmental Management	Water Division	Drinking Water Branch
County Map of AL	Water System Search	Help

Water System Facilities	Violations Enforcement Actions	TCR Sample Results	TTHM HAA5 Summaries
Sample Points	Assistance Actions	Recent Positive TCR Results	PBCU Summaries
Sample Schedules / FANLs / Plans	Compliance Schedules	Other Chemical Results	Chlorine Summaries
Site Visits Milestones	TOC/Alkalinity Results	Chemical Results by: Name Code	Turbidity Summaries
Operators All POC	LRAA (TTHM/HAA5)	Recent Non-TCR Sample Results	TCR Sample Summaries

Water System Detail Information

Water System No.:	AL0000143	Federal Type:	NTNC
Water System Name:	LEE BRASS COMPANY	Federal Source:	GW
Principal County Served:	CALHOUN	System Status:	A
Principal City Served:	ANNISTON	Activity Date:	12-01-1985

Water System Contacts

Type	Contact	Communication	
		Phone Type	Value
AC - Administrative Contact	JAMESON, BRUCE P.O. Box 1229 ANNISTON, AL 36201	BUS - Business	256-831-2501
		EMERG - Emergency	256-835-7386

List of Operators   Complete Point of Contact List

Sources of Water

Name	Type	Activity	Availability
WELL	WL	A	P

Source Water Percentages

Surface Water	0	Surface Water Purchased	0
Ground Water	100	Ground Water Purchased	0
Ground Water UDI	0	Ground Water UDI Purchased	0

Water Purchases

System No.	System Name	Facility ID	Facility Name	Water Finish
No Water Purchases				

Buyers of Water	
Water System No.	Name
No Buyers	

Annual Operating Period(s)					
Effective Begin Date	Effective End Date	Start Month/Day	End Month/Day	Type	Population
01-01-2004	No End Date	1/1	12/31	NT	395

Service Connections			
Type	Count	Meter Type	Meter Size
CM	1	ME	0

Service Area	
Code	Name
NT	INDUSTRIAL/AGRICULTURAL

Regulating Agencies	
Name	Alias/Inspector
ALABAMA DEPT. OF ENVIRONMENTAL MGT.	

Water System Historical Names
Historical Name(s)

System Certification Requirements		
Certification Name	Code	Begin Date

WS Flow Rates		
Type	Quantity	UOM
AVPD - Average Daily Production	30000	GPD

WS Measures		
Type	Quantity	UOM

WS Indicators		
Type	**Value**	**Date**
SSWP - State Source Water Program	NO	03-12-2009

Alabama Department of Environmental Management	Water Division	Drinking Water Branch
County Map of AL	Water System Search	Help

Water System Facilities	Violations Enforcement Actions	TCR Sample Results	TTHM HAA5 Summaries
Sample Points	Assistance Actions	Recent Positive TCR Results	PBCU Summaries
Sample Schedules / FANLs / Plans	Compliance Schedules	Other Chemical Results	Chlorine Summaries
Site Visits Milestones	TOC/Alkalinity Results	Chemical Results by: Name Code	Turbidity Summaries
Operators All POC	LRAA (TTHM/HAA5)	Recent Non-TCR Sample Results	TCR Sample Summaries

Water System Detail Information

Water System No.:	AL0000134	Federal Type:	NTNC
Water System Name:	UNION FOUNDRY	Federal Source:	GW
Principal County Served:	CALHOUN	System Status:	I
Principal City Served:	ANNISTON	Activity Date:	03-13-2006

Water System Contacts

Type	Contact	Communication Phone Type	Communication Value
AC - Administrative Contact	STEELE, MIKE P O BOX 309 ANNISTON, AL 36202	BUS - Business	256-236-7601

List of Operators Complete Point of Contact List

Sources of Water

Name	Type	Activity	Availability
WELL	WL	A	P

Source Water Percentages

Surface Water	0	Surface Water Purchased	0
Ground Water	50	Ground Water Purchased	50
Ground Water UDI	0	Ground Water UDI Purchased	0

Water Purchases

System No.	System Name	Facility ID	Facility Name	Water Finish
No Water Purchases				

Buyers of Water	
Water System No.	**Name**
No Buyers	

Annual Operating Period(s)					
Effective Begin Date	**Effective End Date**	**Start Month/Day**	**End Month/Day**	**Type**	**Population**
01-01-2004	No End Date	1/1	12/31	NT	400

Service Connections			
Type	**Count**	**Meter Type**	**Meter Size**
CM	1	ME	0

Service Area	
Code	**Name**
NT	INDUSTRIAL/AGRICULTURAL

Regulating Agencies	
Name	**Alias/Inspector**
ALABAMA DEPT. OF ENVIRONMENTAL MGT.	

Water System Historical Names
Historical Name(s)

System Certification Requirements		
Certification Name	**Code**	**Begin Date**

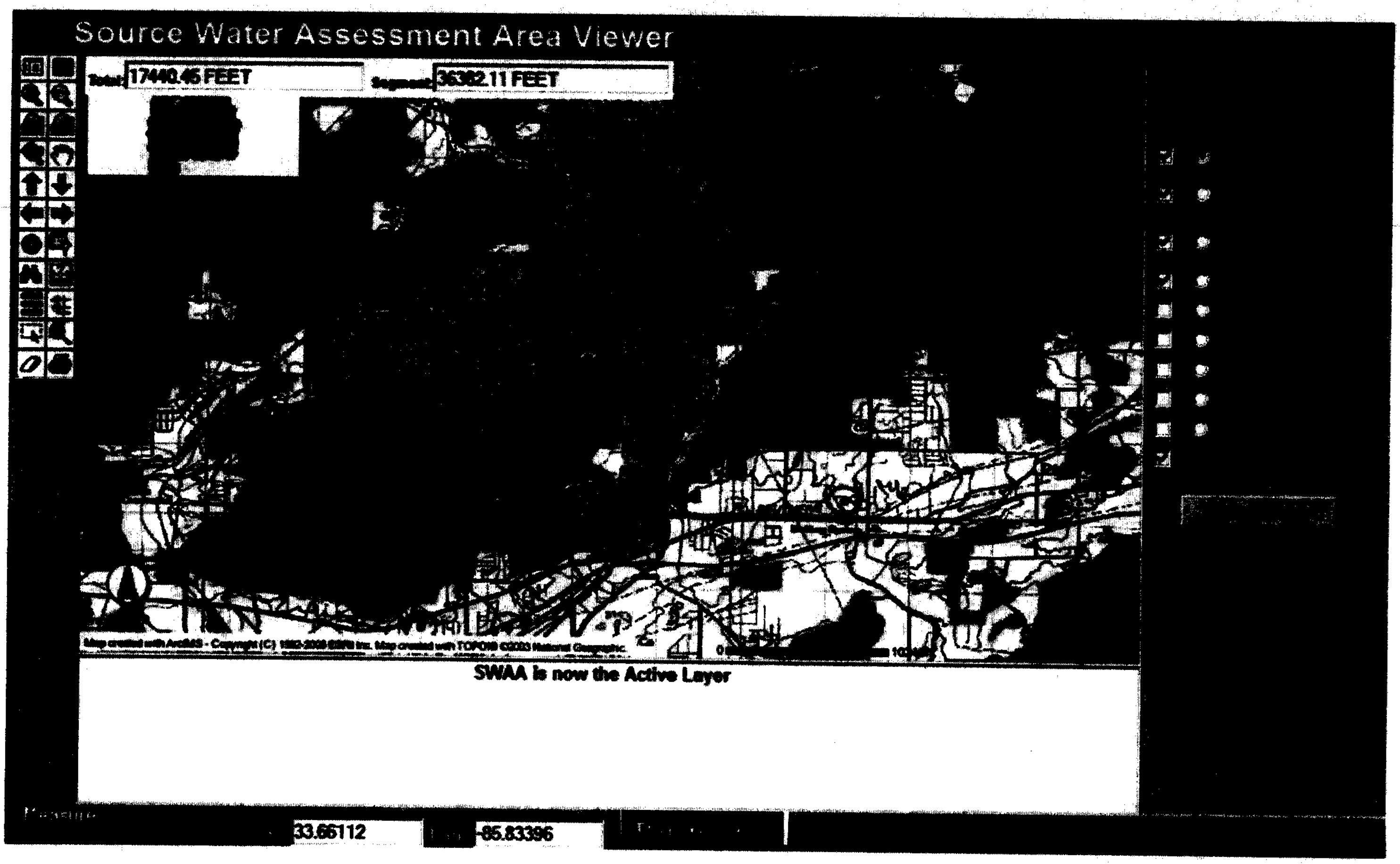
WS Flow Rates		
Type	**Quantity**	**UOM**

WS Measures		
Type	**Quantity**	**UOM**

WS Indicators		
Type	**Value**	**Date**
SSWP - State Source Water		

Program	NO	03-12-2009

REFERENCE
8


Source Water Assessment Area Viewer
Total: 17440.45 FEET
Segment: 36382.11 FEET
SWAA is now the Active Layer
33.66112
-85.83396

REFERENCE 9

2008 ALABAMA FISH CONSUMPTION ADVISORIES

JULY 2008

WATER BODY–COUNTY	LOCATION	TYPE ADVISORY	CONTAMINAN
?ear Creek Reservoir–Franklin	Dam forebay area	Largemouth Bass 1 meal/month	Mercury
Big Escambia Creek–Escambia	At the Louisville and Nashville Railroad bridge crossing	Largemouth Bass Do Not Consume*	Mercury
Big Creek Reservoir–Mobile	Lakewide sample	Largemouth Bass 1 meal/month	Mercury
Bilbo Creek–Washington	Upstream of the confluence with the Tombigbee River	Largemouth Bass 1 meal/month	Mercury
Blackwater Creek–Baldwin	In the area between the mouth of the river and the pipeline crossing southeast of Robertsdale	Largemouth Bass Do Not Consume*	Mercury
Blackwater Creek–Escambia	Between the County Road 4 bridge and the Alabama/Florida state line	Largemouth Bass Do Not Consume*	Mercury
Bon Secour River–Baldwin	Vicinity of County Road 10 bridge	Largemouth Bass Do Not Consume*	Mercury
Cedar Creek–Houston	Cedar Creek drainage from American Brass site near Headland, AL tributary to Omusee Creek	Largemouth Bass 2 meals/month	Mercury
Chickasaw Creek–Mobile	Entire creek	Largemouth Bass Do Not Consume*	Mercury
Choccolocco Creek–Calhoun	In the vicinity of Boiling Springs Road bridge crossing	Spotted Bass 2 meals/month	Mercury
Choccolocco Creek–Calhoun, Talladega	Entire length of creek from south of Oxford to Logan Martin Lake	All Fish Do Not Consume*	PCBs
Choccolocco Creek–Talladega	In the vicinity of County Road 399 bridge	Spotted Bass 1 meal/month	Mercury
Choctawhatchee River–Geneva	Entire River	Spotted Bass, Redear Sunfish 2 meals/month	Mercury
Claiborne Reservoir–Clarke, Monroe	Dam forebay area and in vicinity of Lower Peachtree access area approx. River Mile 96 close to the intersection of Clarke, Monroe and Wilcox counties	Largemouth Bass 2 meals/month	Mercury
Claiborne Reservoir–Monroe	Dam forebay area, River Mile 73	Largemouth Bass 2 meals/month	Mercury
Cold Creek Swamp–Mobile	From confluence of Cold Creek with the Mobile River west through the swamp	All Fish Do Not Consume*	Mercury
Conecuh River–Escambia	At Pollard Landing approx. 8.6 miles downstream of the paper mill	Largemouth Bass Do Not Consume*	Mercury
Coosa River–Calhoun, St. Clair, Talladega	Between Neely Henry Dam and Riverside	Catfish over 1 pound Limited Consumption**	PCBs
Coosa River–St. Clair, Talladega	Between Riverside and Logan Martin Dam	Striped Bass Do Not Consume*	PCBs
Coosa River–Shelby, St. Clair, Talladega	Between Logan Martin Dam and the railroad tracks crossing the Coosa near Vincent	Striped Bass Do Not Consume*	PCBs
Coosa River– Chilton, Coosa, Shelby, St. Clair, Talladega	Lay Lake between Logan Martin Dam and Lay Lake	Striped Bass Do Not Consume*	PCBs
Coosa River–St. Clair	In upper Lay Reservoir approx. 2 miles downstream of Logan Martin Dam and one half mile downstream from the Kelly Creek–Coosa River confluence in the vicinity of Ratcliff/Elliot Island	Spotted Bass Limited Consumption** 2 meals per month	PCBs Mercury
Cowpen Creek–Baldwin	Upstream of confluence with Fish River	Largemouth Bass 1 meal/month	Mercury
Escatawpa River–Mobile	At U.S. Highway 98 bridge crossing approx. 1/10 mile upstream of Alabama/Mississippi state line	Spotted Bass 1 meal/2 months (1/2 meal/month) Largemouth Bass 1 meal/month	Mercury
Fish River–Baldwin	In vicinity of confluence with Polecat Creek approx. one mile upstream of County Road 32 bridge	Largemouth Bass 1 meal/2 months (1/2 meal/month)	Mercury

2008 ALABAMA FISH CONSUMPTION ADVISORIES JULY 2008

WATER BODY-COUNTY	LOCATION	TYPE ADVISORY	CONTAMINAN
Fish River-Baldwin	Approx. 2 miles upstream of U.S. Hwy 98 bridge in vicinity of Waterhole Branch/Fish River confluence just above the 2 islands	Largemouth Bass 2 meals/month	Mercury
Fowl River-Mobile	Entire River	Largemouth Bass Do Not Consume*	Mercury
Frank Jackson Lake-Covington	Lightwood Knot Creek, Frank Jackson Lake lake-wide, Opp	Largemouth Bass 1 meal/month	Mercury
Gulf Coast-Baldwin, Mobile	Entire Coast	King Mackerel over 39 inches Do Not Consume* King Mackerel under 39 inches Limited Consumption**	Mercury
Huntsville Spring Branch & Indian Creek-Madison	From Redstone Arsenal to the Tennessee River	Smallmouth & Bigmouth Buffalofish Do Not Consume*	DDT
Lake Jackson-Covington	Lake Jackson located on the Alabala/Florida state line at Florala, AL	Largemouth Bass 1 meal/month	Mercury
Lewis Smith Reservoir-Cullman	Ryan Creek, Lewis Smith Reservoir in the vicinity of Cullman County Rd. 222 bridge	Largemouth Bass 1 meal/month	Mercury
Lewis Smith Reservoir-Winston	Rock Creek, Lewis Smith Reservoir in vicinity of Little Crooked Creek and Rock Creek Marina, approximately 5 miles upstream from Sipsey Fork	Largemouth Bass 2 meals/month	Mercury
Lewis Smith Reservoir-Winston	Mouth of Clear Creek, mouth of Butler Creek	Largemouth Bass 1 meal/month	Mercury
Little Escambia Creek-Escambia	In Escambia County at U.S. Hwy 31/29 bridge	Spotted Bass Do Not Consume*	Mercury
Mobile River-Mobile	At and south of the confluence with Cold Creek	Largemouth Bass 2 meals/month	Mercury
North River-Tuscaloosa	Upstream of Lake Tuscaloosa, immediately upstream of Bull Slough Road	Largemouth Bass 2 meals/month	Mercury
Opossum Creek-Jefferson	From the Pumping Station to the confluence with Valley Creek	Largemouth Bass Do Not Consume*	Mercury
Pea River-Geneva	Entire River	Largemouth Bass 2 meals/month	Mercury
Perdido River-Baldwin	Near confluence with Styx River in vicinity of U.S. Hwy 90 bridge crossing	Largemouth Bass 1 meal/month River Redhorse 2 meals/month	Mercury
Polecat Creek-Baldwin	Upstream of confluence with Fish River	Largemouth Bass 1 meal/month	Mercury
Sepulga River-Escambia	Sepulga River upstream of Conecuh River confluence	Spotted Bass 1 meal/month	Mercury
Styx River-Baldwin	Entire River	Channel catfish Limited Consumption** Largemouth Bass 1 meal/month	Mercury
Tensaw River-Baldwin	Entire River	Largemouth Bass Limited Consumption**	Mercury
Tombigbee River-Clarke	Vicinity of Tombigbee River Mile 83.6	Largemouth Bass 1 meal/month	Mercury
Lake Tuscaloosa-Tuscaloosa	Entire Lake	All Species 1 meal/month	Mercury
Upper Bear Creek Reservoir-Marion	Dam forebay area	Largemouth Bass 2 meals/month	Mercury
Valley Creek-Jefferson	Around the confluence with Opossum Creek	Largemouth Bass Do Not Consume*	Mercury
Yellow River-Covington	At County Road 4 bridge crossing approx. 1.5 miles upstream of Alabama/Florida state line	Largemouth Bass Do Not Consume*	Mercury

* Do Not Consume advisory: Everyone should avoid eating the designated species of fish in the defined areas.

** Limited Consumption advisory: Women of reproductive age and children less than 15 years old should avoid eating certain fish from these areas. Other people should limit their consumption of the particular species to one meal per month. A meal is considered to be 6 ounces of cooked fish or 8 ounces of raw fish.

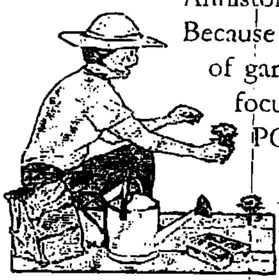
Alabama Department of Public Health, 1-800-201-8208, tox@adph.state.al.us, www.adph.org/tox

REFERENCE 10

Anniston, Alabama Newsletter No.3
August 2001
ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

Gardening in Anniston and Calhoun County

What has ATSDR been doing to answer Anniston's concerns about gardening and what is their recommendation? A recent EPA survey of about 250 households in West Anniston indicates that just less than half of the surveyed household residents enjoy gardening activities. Approximately 2,000 to 3,000 land parcels of the West Anniston and Snow Creek flood plain basin are residential. Therefore, a potentially large number of Anniston residents might come in contact with soil contaminants through gardening. Because of this, and the many requests from the community about the health implications of gardening, ATSDR has started a program to address your concerns. The program focuses on how residents can lessen their contact with soil contaminants (lead and PCBs) while gardening and also when eating fruits and vegetables they grow.



ATSDR is reviewing available scientific reports to better understand the principals of how chemicals might be transferred from contaminated soil into produce. Also, through a cooperative effort with the U.S. Environmental Agency, the Calhoun County Cooperative Extension System, Auburn University, and the Alabama Department of Environmental Management, a strategy is being devised to provide:

- community wide gardening education,
- methods for home owners to reduce potential exposures,
- recommendations for soil testing and gardening practices, and
- future collaborations to ensure safe gardening in Anniston.

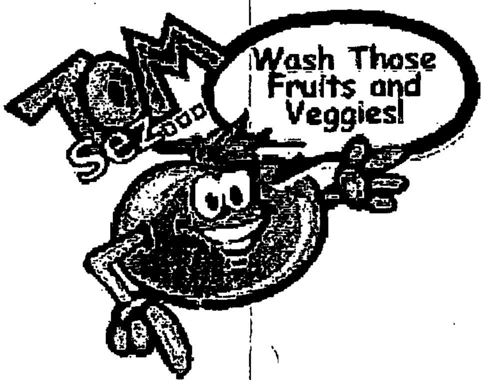
In This Issue....

Realizing that applying many good simple gardening practices can substantially lower exposure to soil contaminants, and considering the dietary importance of fresh fruits and vegetables, it is recommended that Anniston residents continue to grow and reap the benefits of home garden produce.

If I am concerned about chemical contamination of my soil what can I do to lower my exposure? As you know, lead and PCB contamination has been found in the soil in some areas of Anniston. However, you don't have to give up those delicious homegrown tomatoes and vegetables. Consider these gardening tips.

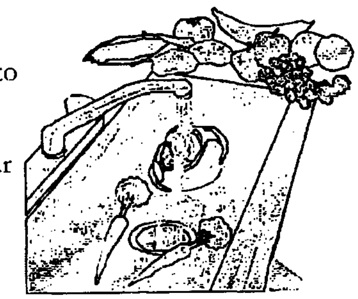
- Add clean compost or soil to your garden. This will not only help your garden grow better, it will also reduce the concentration of contaminants in the soil.
- Be sure phosphate and pH levels do not fall below recommended values. Your county extension office can help evaluate your soil. (334) 844-1047.
- Avoid working your garden when it is windy or when the soil is too dry. To do so produces contaminated dust. Using mulches will help eliminate dust.
- Don't eat or drink while in the garden.

After you have worked in the garden or perhaps harvested some of those green beans, squash, potatoes, etc., here are some tips to help you further reduce the amount of contamination in your home.



- Remove shoes before entering the house. Have a pair of "gardening shoes" that you can leave outside. Clean them outside before you bring them into the house.
- Wash your hands and arms carefully to remove garden dirt and dust.
- Wash your clothing.
- Wash your vegetables and fruits carefully and thoroughly. Add a little vinegar to the wash water. This will help remove dirt and contaminants from their surfaces.

Another aid to lessening your exposure to contaminants is to consider purchasing some vegetables from the farmer's market or the grocery store to add to your home grown vegetables.



By following these simple steps, you will greatly reduce the amount of your exposure to contaminated soil and still enjoy your gardening and all those good home grown fruits and vegetables.

ATSDR Conducts Blood Lead Screening in Anniston

Lead poisoning can cause serious health effects among children under the age of 6, including learning and behavioral problems. Because children with elevated blood lead levels do not develop clinical symptoms, screening is necessary to identify children who may need environmental or medical intervention. During April and May, ATSDR screened 410 children for their blood lead level at the following locations: Hall Head Start, Constantine Head Start, Norwood Boys and Girls Club, Cobb Elementary, and Wellborn Elementary. The RMC Wellness Connection Bus collected the samples. Parents and pediatricians will receive the child's results by mail. A summary of the information collected will be available to the community later this year. We appreciate very much the help of all the people who made this project a success, especially the Community Against Pollution citizens group for educating the residents of Anniston about the dangers of lead poisoning and encouraging parents to participate.

For more information about lead poisoning and screening opportunities for your children, please contact any of these sources:

- the Alabama Childhood Lead Poisoning Prevention Project at 334-206-2966
- the National Lead Information Center at 1-800-424-5323, and
- the National Lead Hotline at 1-800-532-3394.

Your Doctor Can Test You for PCBs

Your doctor can test your blood, body fat, or breast milk to find your PCB level, but at this time, there is no medication that can remove PCBs from your body.

A blood test is the easiest and safest method to test for these chemicals. These tests can tell you: 1) whether you have come in contact with PCBs, and 2) if your PCB levels are higher than people in other areas. These tests can not tell you: 1) the exact amount or type of PCBs in your body, 2) how long you have been in contact with PCBs, 3) where the PCBs came from, and 4) whether you will get sick from the PCBs.

ATSDR does not plan to test Anniston Residents for PCBs. If you have concerns or believe you may have come in contact with PCBs, you should talk with your doctor. He or she can test you for PCBs.

ATSDR Finalized Reports

ATSDR will finalize several reports evaluating possible chemical exposure in the Anniston Area. Our most recent documents are summarized below.

Evaluation of Soil, Blood, & Air Data from Anniston, Alabama: This health consultation evaluated soil, blood, and air data collected by the U.S. Environmental Protection Agency and community groups. It determined that PCB levels in some residential soils represent a public health hazard and that some individuals have elevated blood PCB levels.

Evaluation of Lead in Residential Surface Soil from Anniston, Alabama: This health consultation evaluated soil lead levels in various properties located in West Anniston. Its findings concluded that some residential soil lead levels represent a public health hazard.

Evaluation of Lead in the Surface Soil at the Oxford Lake Softball Complex: Also a health consultation, this report evaluated lead levels in the soil of the softball complex near Anniston, concluding that the soil lead levels were below health concern levels.

When finalized, these reports can be found at the following locations:

Anniston Public Library
108 East 10th Street

Carver Library
722 West 14th Street

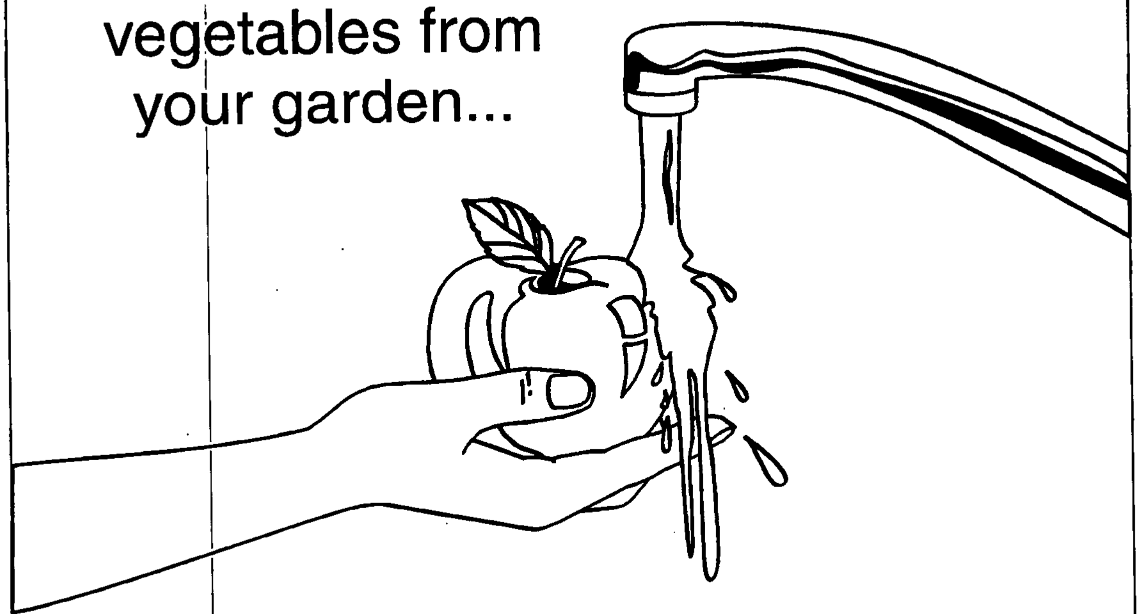
Community Against Pollution Headquarters
1012 West 15th Street

The U.S. Environmental Protection Agency Anniston Office
1313 Noble Street

Parents!!!

The best way to keep PCBs and lead from getting into children's bodies is by being sure children frequently wash their hands. Remind your children to wash their hands especially well after playing and before eating. Talk with your children about PCBs and lead contamination and the importance of washing their hands. There is a picture for your children to color on the next page that has a wonderful message.

Before eating fruits and vegetables from your garden...



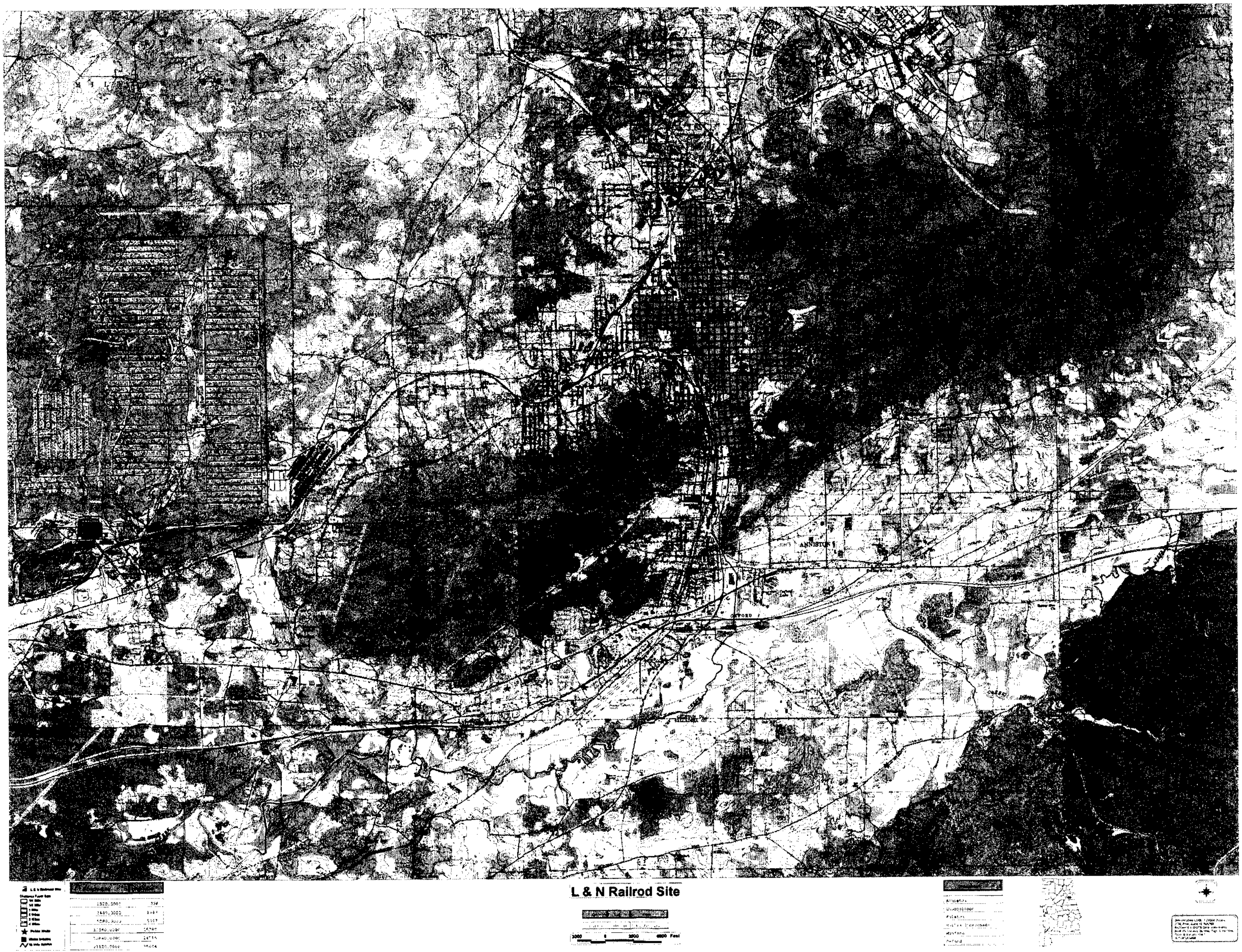
...wash your food!

For more information, contact ATSDR's toll-free information line:

(888) 42-ATSDR. . . that's (888) 422-8737

ATSDR's Internet address is http://www.atsdr.cdc.gov

ATTACHMENT 1



L & N Railrod Site

ATTACHMENT 2

ONIS "TREY" GLENN, III
DIRECTOR

ADEM

Alabama Department of Environmental Management
adem.alabama.gov
1400 Coliseum Blvd. 36110-2059 • Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700
FAX (334) 271-7950

BOB RILEY
GOVERNOR

April 1, 2009

To: Dave Davis, Chief
Assessment Section
Environmental Services Branch
Land Division

From: Dylan C. Hendrix, ES
Assessment Section
Environmental Services Branch

RE: Trip Report for Preliminary Assessment
L&N Railroad Depot Site
EPA ID No. 000009636310, CERCLA ID No. 7157
1300 Walnut Ave.
Anniston, Calhoun County, Alabama 36201

On March 18, 2009, Mr. Michael Cruise and I traveled to Anniston, Alabama to conduct on-site reconnaissance at the L&N Railroad Depot Site. Subsequent to the Preliminary Assessment in 2000, there have been no further evaluations of the property. According to local newspapers, the railroad depot was demolished by fire in December, 2008.

At approximately 11:00 a.m. we arrived on-site and conducted an initial walk-through of the property. The site is characterized by a large central pit containing the rubble of the demolished train depot. The majority of the rubble included sandstone blocks, bricks, charred wood, rusted metal, glass, and a variety of smaller detritus.

At approximately 11:15 a.m., I began collecting photographs of the site while Mr. Cruise collected GPS coordinates of the property boundaries and site entrance.

At approximately 12:00 p.m., we began taking random soil samples to test for PCB's using the Clor-N-Soil PCB screening kits. We initially collected three soil samples for evaluation; Mr. Cruise recorded the GPS coordinates for each sample location.

At approximately 12:30 p.m., I ran the soil screen test on Soil Sample 1 (SS-1) while Mr. Cruise ran the test on Sample 2 (SS-2). Sample 1 produced a two-phase result with a light amber liquid suspended above a clear liquid. The test kit instructions indicate that this sample may contain PCB concentrations above 50 ppm. Sample 2 produced a purple liquid, indicating a PCB concentration below 50 ppm. Mr. Cruise then tested Sample 3 (SS-3) which produced a purple liquid, also indicating a PCB concentration below 50 ppm.

At approximately 1:55 p.m., we returned from lunch and walked to the west side of the property bordered by a small tributary of Snow Creek. Along the east bank of the tributary we noticed an underground ceramic drainpipe that extended from the west side of the site to the bank of the tributary below. After taking photographs and GPS coordinates we collected Soil Sample 4 (SS-4) from the east bank of the tributary. We then walked back to the main entrance of the site and collected a duplicate sample of Soil Sample 1 (SS-1D) to determine the accuracy of SS-1 taken earlier in the day.

At approximately 2:30 p.m., I began testing Sample 4 while Mr. Cruise tested Sample 1D. Sample 4 produced a purple liquid, indicating PCB concentrations below 50 ppm. Soil Sample 1D produced a purple liquid, also indicating PCB concentrations below 50 ppm.

At approximately 3:05 p.m. we completed a site sketch of the property, packed our gear in the vehicle, and departed from the site.

Attachments:

ATTACHMENT 3

PHOTOGRAPHIC LOG:

For

L&N Railroad Depot Site, Site Reassessment

1300 Walnut Ave.
Anniston, Calhoun County, Alabama

EPA ID No. 000009636310, CERCLA ID No. 7157

Photograph Date: March 18, 2009

Photo 1	View of demolished depot; facing north from the south side of the property.
Photo 2	View of east side of the property; facing north along Walnut Ave.
Photo 3	View of east side of the property; facing south along Walnut Ave.
Photo 4	View of site entrance; facing northwest from the corner of 13th Street and Walnut Ave.
Photo 5	Southern border of the property; facing west from Walnut Ave. Demolished depot is to the right.
Photo 6	Southern border of the property; facing east from southwest corner. Demolished depot is to the left (out of frame).
Photo 7	Northern border of the property; facing west from Walnut Ave. Demolished depot is to the left (out of frame).
Photo 8	Northern border of the property; facing east from northwest corner. Demolished depot is to the right.
Photo 9	View of demolished depot; facing south from the north side of the property.
Photo 10	Debris from the demolished building; facing north from property center.
Photo 11	Debris from the demolished building; facing south from north side of property.
Photo 12	Tank with unknown contents found at property center amongst the debris.
Photo 13	Soil Sample 2 (SS-2); resulting liquid was purple, indicating a PCB concentration below 50 ppm.
Photo 14	Soil Sample 1 (SS-1); resulting liquid was two-phase amber over clear, indicating a PCB concentration above 50 ppm.
Photo 15	Soil Sample 3 (SS-3); resulting liquid was purple, indicating a PCB concentration below 50 ppm.
Photo 16	Soil Sample 1D (SS-1D); resulting liquid was purple, indicating a PCB concentration below 50 ppm. Note: this is a duplicate test of SS-1.
Photo 17	Soil Sample 4 (SS-4); resulting liquid was purple, indicating a PCB concentration below 50 ppm.

Photo 18	View of the tributary connecting with Snow Creek; facing north from 11th Street.
Photo 19	View of Snow Creek; facing east from small footbridge located approximately 400 yards south of the L&N site.
Photo 20	Tributary running behind the property; facing north from old railroad west of the site. Note: west boundary of site ends at tree line to the right.
Photo 21	Tributary running behind the property; facing south from old railroad west of the site. Note: west boundary of site ends at tree line to the left.
Photo 22	View of west side of property with tributary in foreground; facing east from old railroad. The building in the background is across the street (Walnut Ave.) from the site.
Photo 23	Underground drainage pipe leading from the west side of the property to the east bank of the tributary; facing east from old railroad.
Photo 24	Sign on fence surrounding east side of property; facing west from Walnut Ave. Note: the sign appeared melted, indicating that the property was for sale *before* the building was destroyed by fire.

Photo Log for Reassessment
L&N Railroad Depot Site
EPA ID No. 000009636310, CERCLA ID No. 7157
Calhoun County, Alabama

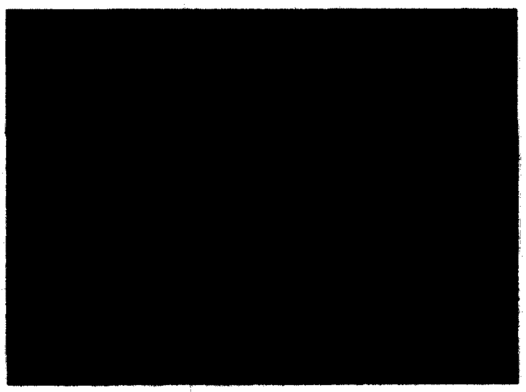


Photo 1: View of demolished depot; facing north from the south side of the property.

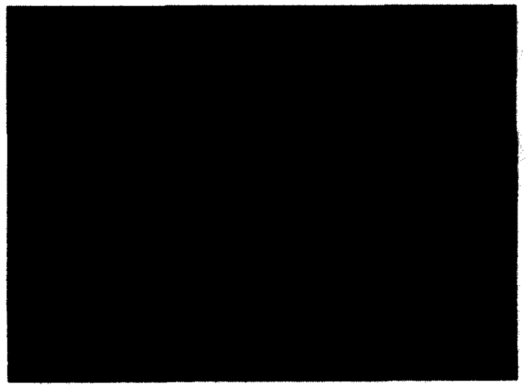


Photo 2: View of east side of the property; facing north along Walnut Ave.

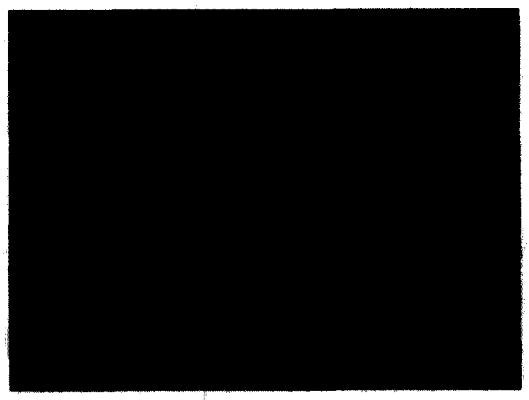


Photo 3: View of east side of the property; facing south along Walnut Ave.

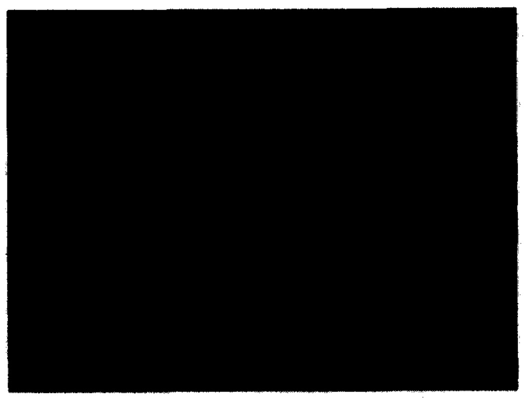


Photo 4: View of site entrance; facing northwest from the corner of 13th Street and Walnut Ave.

Photo Log for Reassessment
L&N Railroad Depot Site
EPA ID No. 000009636310, CERCLA ID No. 7157
Calhoun County, Alabama

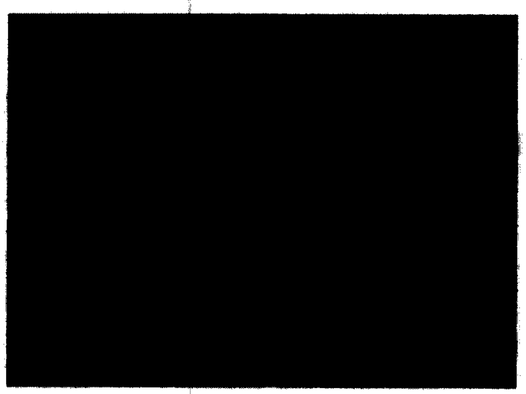


Photo 5: Southern border of the property; facing west from Walnut Ave. Demolished depot is to the right.

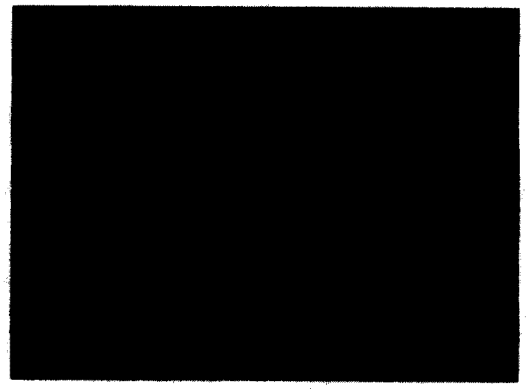


Photo 6: Southern border of the property; facing east from southwest corner. Demolished depot is to the left (out of frame).

Photo 7: Northern border of the property; facing west from Walnut Ave. Demolished depot is to the left (out of frame).

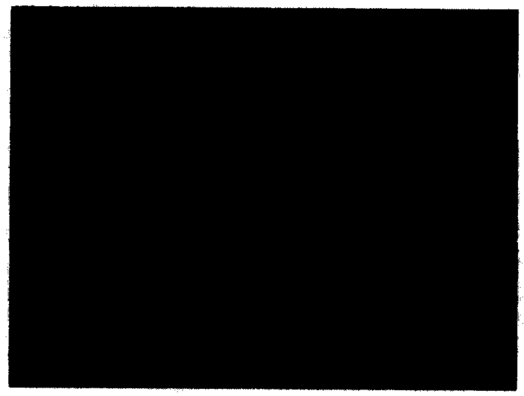


Photo 8: Northern border of the property; facing east from northwest corner. Demolished depot is to the right.

Photo Log for Reassessment
L&N Railroad Depot Site
EPA ID No. 000009636310, CERCLA ID No. 7157
Calhoun County, Alabama

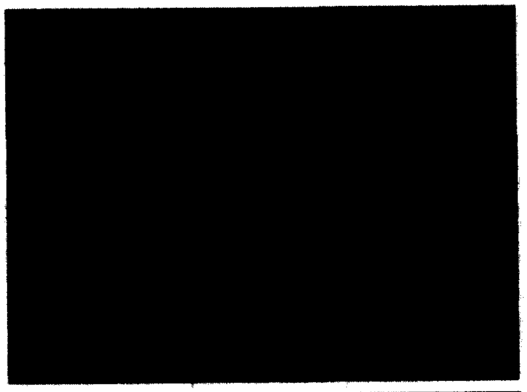


Photo 9: View of demolished depot; facing south from the north side of the property.

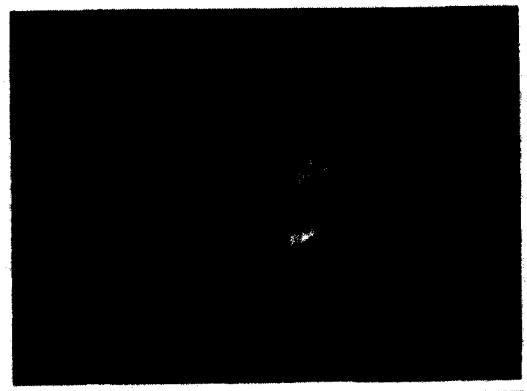


Photo 10: Debris from the demolished building; facing north from property center.

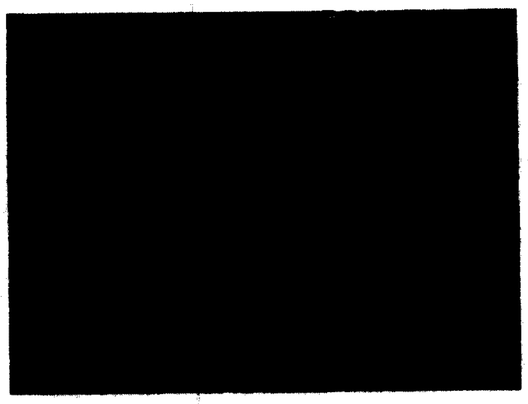


Photo 11: Debris from the demolished building; facing south from north side of property.

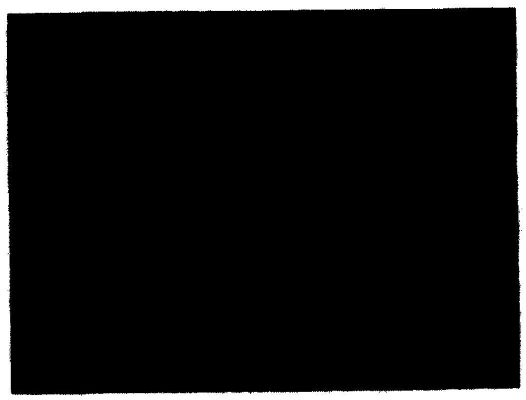


Photo 12: Tank with unknown contents found at property center amongst the debris.

Photo Log for Reassessment
L&N Railroad Depot Site
EPA ID No. 000009636310, CERCLA ID No. 7157
Calhoun County, Alabama

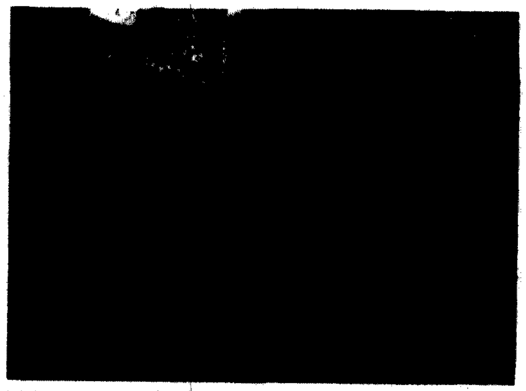


Photo 13: Soil Sample 2 (SS-2); resulting liquid was purple, indicating a PCB concentration below 50 ppm.

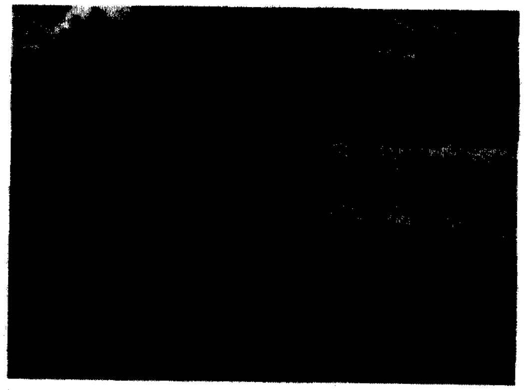


Photo 14: Soil Sample 1 (SS-1); resulting liquid was two-phase amber over clear, indicating a PCB concentration above 50 ppm.

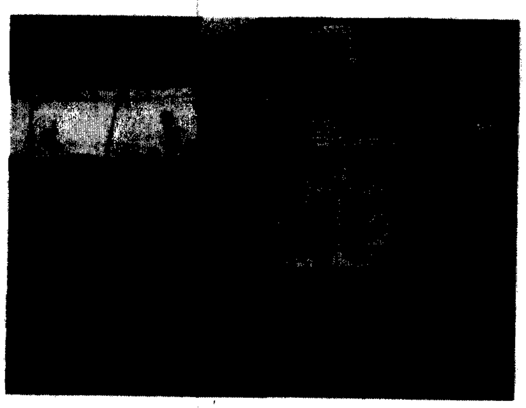


Photo 15: Soil Sample 3 (SS-3); resulting liquid was purple, indicating a PCB concentration below 50 ppm.

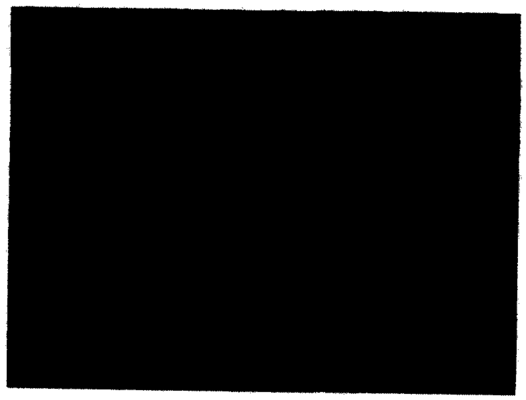


Photo 16: Soil Sample 1D (SS-1D); resulting liquid was purple, indicating a PCB concentration below 50 ppm. Note: this is a duplicate test of SS-1.

Photo Log for Reassessment
L&N Railroad Depot Site
EPA ID No. 000009636310, CERCLA ID No. 7157
Calhoun County, Alabama

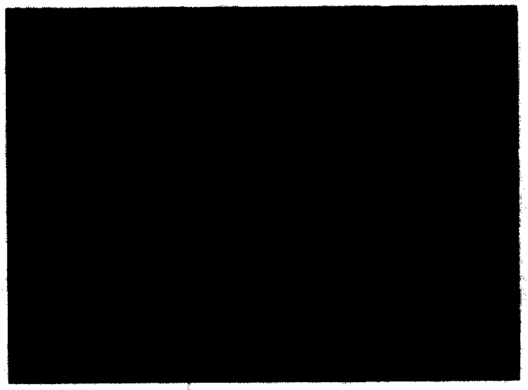


Photo 17: Soil Sample 4 (SS-4); resulting liquid was purple, indicating a PCB concentration below 50 ppm.

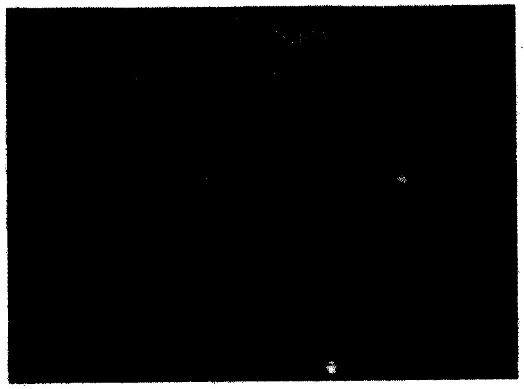


Photo 18: View of the tributary connecting with Snow Creek; facing north from 11th Street.

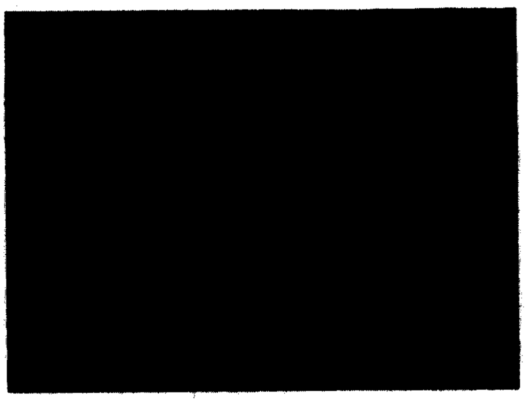


Photo 19: View of Snow Creek; facing east from small footbridge located approximately 400 yards south of the L&N site.

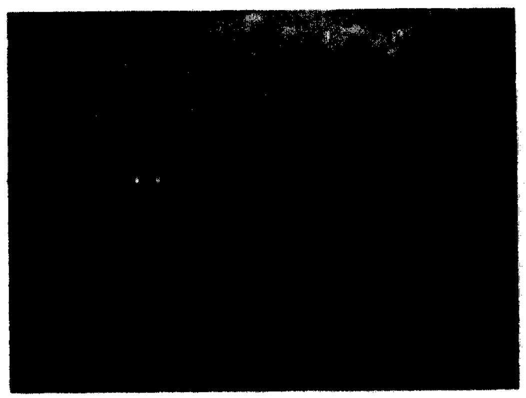


Photo 20: Tributary running behind the property; facing north from old railroad west of the site. Note: west boundary of site ends at tree line to the right.

Photo Log for Reassessment
L&N Railroad Depot Site
EPA ID No. 000009636310, CERCLA ID No. 7157
Calhoun County, Alabama

Photo 21: Tributary running behind the property; facing south from old railroad west of the site. Note: west boundary of site ends at tree line to the left.

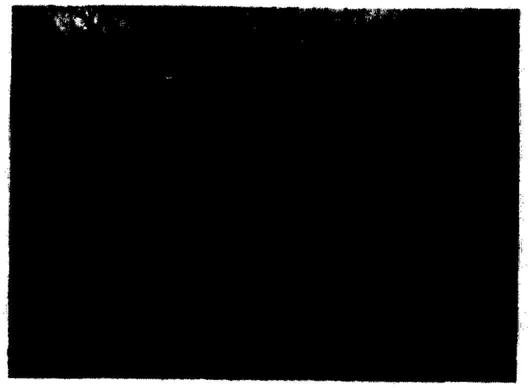


Photo 22: View of west side of property with tributary in foreground; facing east from old railroad. The building in the background is across the street (Walnut Ave.) from the site.

Photo 23: Underground drainage pipe leading from the west side of the property to the east bank of the tributary; facing east from old railroad.

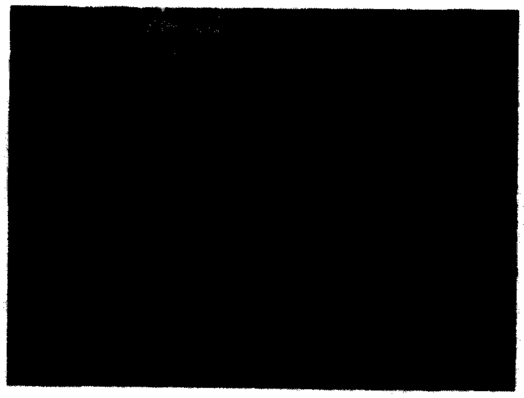


Photo 24: Sign on fence surrounding east side of property; facing west from Walnut Ave. Note: the sign appeared melted, indicating that the property was for sale *before* the building was destroyed by fire.

ATTACHMENT
4

GPS Pathfinder® Systems

User Guide

Version 2.00
Revision A
Part Number 40889-10-ENG
April 2004

Trimble.

Introduction

Trimble GPS Pathfinder Systems are effective tools to collect, update, and process data. They integrate seamlessly with industry-standard GIS systems, providing you with timely, accurate data for decision-making.

They can be operated with a variety of field devices and field software to suit your workflow:

- Field device – choose a Trimble GIS TSCe™, or a Trimble Recon™, or GeoExplorer® Series handheld. Alternatively, choose a user-supplied field device.
- Software – choose Trimble TerraSync™, software for a complete solution from the field to the office and back, or Trimble GPS Pathfinder Tools SDK to build your own application that is totally customized to your needs. Alternatively, choose off-the-shelf GPS field software.

With GPS Pathfinder Systems receivers, you can use the integrated real-time differential GPS sources to provide submeter position accuracy on a second-by-second basis, or choose post-processed DGPS for even higher accuracy.

NMEA-0183 messages and raw measurements in TSIP (Trimble Standard Interface Protocol) are also available, offering optimal flexibility when interfacing with other instruments.

What is GPS?

The Global Positioning System (GPS) is a satellite-based positioning system operated by the U.S. Department of Defense (DoD). Over 24 operational NAVSTAR satellites orbit the earth every 12 hours, providing worldwide, all-weather, 24-hour time and position information.

For more information about GPS concepts, refer to the Mapping Systems General Reference at www.trimble.com/pathfindersys.html.

What is the GPS Pathfinder Pro XR Receiver?

The GPS Pathfinder Pro XR receiver includes a differential GPS receiver module and a fully automatic, dual-channel MSK beacon receiver module for receiving DGPS (Differential GPS) broadcasts conforming to the IALA (International Association of Lighthouse Authorities) standard. These components are packaged within a lightweight, rugged, weatherproof housing.

What is the GPS Pathfinder Pro XRS Receiver?

The GPS Pathfinder Pro XRS receiver is Trimble's most versatile real-time GPS mapping receiver in the GPS Pathfinder Systems family. By combining a GPS receiver, an MSK beacon differential receiver, and a satellite differential receiver in a single housing, the GPS Pathfinder Pro XRS receiver offers unsurpassed flexibility for choosing a source for real-time differential corrections. One receiver and antenna is all that is required for the flexibility of receiving GPS signals, MSK beacon differential corrections, and satellite differential corrections.

What is the GPS Pathfinder Power Receiver?

The GPS Pathfinder Power receiver combines high-performance GPS reception with real-time satellite differential capabilities in a small, lightweight, durable, waterproof housing. The unit integrates both the receiver and the antenna in the same housing, making it the most comfortable and lightweight receiver in the GPS Pathfinder Systems family.

- Two RS-232 serial ports.
- NMEA-0183 output to external NMEA devices (supported messages are ALM, GGA, GLL, GSA, GSV, VTG, and ZDA).
- RTCM-SC 104 input from an external differential correction receiver, for example the Beacon-on-a-Belt (BoB™) receiver.
- TSIP Protocol to or from the field device.
- Integrated L-band satellite differential correction receiver.
- Integrated L1 GPS/satellite differential antenna—this active antenna filters out unwanted signals and amplifies the L1 GPS and satellite differential signals.
- User-upgradeable receiver firmware.
- Receiver manual.
- CE Mark compliance.

Antenna Options

There are three antenna options for the GPS Pathfinder Systems receivers:

This antenna ...	is used with this receiver ...	See ...
Integrated GPS/MSK beacon antenna	GPS Pathfinder Pro XR	page 12
Combined L1 GPS/beacon/ satellite differential antenna	GPS Pathfinder Pro XRS	page 14
Integrated L1 GPS/satellite differential antenna	GPS Pathfinder Power	page 15

Integrated GPS/MSK beacon antenna

The GPS Pathfinder Pro XR receiver integrated GPS/MSK beacon antenna (P/N 29653-00) features two antenna components:

- L1 GPS antenna

This active antenna is designed to filter out unwanted signals and amplify the L1 GPS signal for transmission over the antenna cable to the receiver.

- MSK H-field loop beacon antenna

  This antenna features a pre-amplifier for filtering out signal interference such as AM radio broadcasts and noise from switching power supplies. After filtering, the pre-amplifier amplifies the MF signal for transmission over the same antenna cable to the beacon receiver.

The coaxial antenna cable also carries DC power to the pre-amplifier of both the L1 GPS and beacon antennas over the center conductor of the cable.

The L1 GPS antenna and a beacon antenna are integrated into a single antenna assembly, as shown in Figure 2.1. The antenna assembly is completely weatherproof and is designed to withstand harsh environmental conditions.

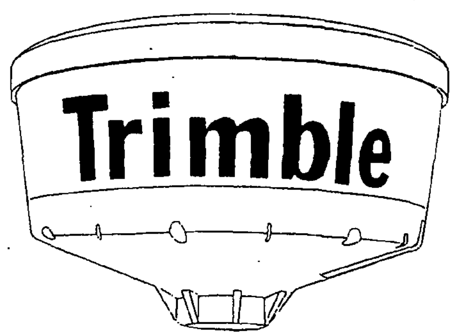


Figure 2.1 Integrated GPS/MSK beacon antenna (for the GPS Pathfinder Pro XR receiver)

Page: 1 Document Name: untitled

04/28/2000 CALHOUN COUNTY ADVALOREM TAX SYSTEM

01	MULLINAX ROBERT D [redacted]	[redacted]	362020000	21306405062
02	JENKINS JULIAN W [redacted]	[redacted]	362020000	21306405063
03	STEPHENSON JIMMY W & C ANN [redacted]	[redacted]	362070000	21306405063.01
04	JENKINS JULIAN W [redacted]	[redacted]	362020000	21306405064
05	CHURCH FIRST UNITED METHODIST 1400 NOBLE ST	NOBLE ST ANNISTON AL	362010000	21306406001
06	CHURCH FIRST UNITED METHODIST OF 1400 NOBLE ST	W 15TH ST ANNISTON AL	362010000	21306406002
07	CHURCH FIRST UNITED METHODIST 1400 NOBLE ST	W 15TH ST ANNISTON AL	362010000	21306406003
08	ANNISTON DEPT OF PARKS & RECREATION PO BOX 670	GURNEE AVE ANNISTON AL	362020000	21306406004
09	CHURCH FIRST UNITED METHODIST OF 1400 NOBLE ST	1411 GURNEE AVE ANNISTON AL	362010000	21306406005

LINE #:
ENTER LINE # TO SELECT NAME PF1 = FWD PF2 = BWD PA2 = OPTION SCREEN.

Blank Page

SITE: L&N
BREAK: 8
OTHER: V.1

PRELIMINARY ASSESSMENT
L & N RAILROAD STATION
ANNISTON, CALHOUN COUNTY, ALABAMA
CERCLIS SITE REF. No.: 7157
EPA ID No.: 000009636310

Prepared By
Lawrence A. Norris
Alabama Department of Environmental Management

10587874

TABLE OF CONTENTS

Date:	*September 14, 2000*
Prepared by:	*Lawrence A. Norris (Site Investigator)* *Northern Compliance Section* *ADEM – Hazardous Waste Branch*
Site:	*L & N Railroad Depot* *West 11th Street & Walnut Avenue* *Anniston, Calhoun County, Alabama 36201*
CERCLIS No.:	*7157*

1. INTRODUCTION

Under authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA) and a cooperative agreement between the U. S. Environmental Protection Agency and the Alabama Department of Environmental Management (ADEM), a Preliminary Assessment (PA) was conducted at the L & N Railroad Depot. The purpose of this investigation was to collect information concerning conditions at the site sufficient to assess the threat posed to human health and the environment and to determine the need for additional investigation under CERCLA/SARA or other action. The scope of the investigation included a review of available file information, a comprehensive target survey, and site reconnaissances on and April 18, 2000. Assessment of the Anniston area is ongoing and extensive residential sampling is being conducted at the direction of US EPA as an emergency removal assessment conducted with the support of ADEM. While extensive testing is being conducted, only a small quantity of analytical results was released to ADEM prior to the preparation of this report.

2. SITE DESCRIPTION, SITE HISTORY, AND WASTE CHARACTERISTICS

2.1 Location

The L & N Railroad Depot site is located at West 11th Street & Walnut Avenue in Anniston, Alabama. More specifically, the site is an 8 acre parcel of land located in the NE 1/4 of SW 1/4 of SE 1/4 of Section 6, Township 16 South, Range 8 East in Calhoun County. The geographical coordinates of the site, collected with GPS, are 33°-39'-37" North Latitude and 85°-50'-04" West Longitude (Ref. 1, Att. 1, 2, & 5).

The site is formerly a railroad depot operation dating back to the late 1850's. Prior to assumption by L & N at some unknown point in time, the site was known as the Union Depot. This site (identified as the Union Depot) is visible in an 1883 pen and ink rendition of the City of Anniston (Att. 9). The depot serviced the Anniston & Cincinnati RR, the Tennessee, Virginia, & Georgia RR, and the Georgia Pacific RR. It is situated due east and directly across the railroad tracks from the former Chalk-Line, Inc./Anniston Manufacturing Company.

The climate of Calhoun County is described as humid subtropical. The climate is characterized by long, hot summers, short, mild winters, and heavy precipitation throughout the year. The average annual rainfall for Calhoun County is 54 inches with 19.7 of those inches running off into the streams (Att. 4). The Anniston site is located in an area determined to be outside of the 500-year flood plain (Ref. 9, Att. 4 & 13).

For Calhoun County, the annual average temperature is 62° F with an average temperature in the summer of 80° F and an average temperature in the winter of 43° F (Ref. 3, Att. 4).

2.2 Site Description

The L & N Railroad Depot site is located at 1200 Walnut Avenue in the city of Anniston, Alabama. The L & N Railroad Depot site consists of two buildings (Plates 1 thru 3). The main depot building is in a state of disrepair except for the roof, which appears to have been recently replaced. Tax records indicate that a Mr. Jimmy W. Stephenson and a Ms. C. Ann Stephenson own this part of the site. Just to the south is the old freight warehouse building. Presently, this building has been restored and is in use as office space. It is presently owned by the Julian W. Jenkins (Ref. 2, Att.s 6, 14, & 15). Two architectural firms; Arris, Inc., and Jenkins, Monroe, and Jenkins operate out of the old freight warehouse building (Plate 3). Vegetation on site did not appear to be stressed at the time of the inspection. Railroad tracks and an unnamed tributary of Snow Creek run parallel to the western border of the site (Plate 4, 6, & 8). The unnamed tributary of Snow Creek flows directly into Snow Creek at the southern border of the property (Plate 7). The site is located directly across from the former Anniston Manufacturing (more recently Chalk-Line Inc.) textiles operation.

The L & N Railroad Depot site is on level ground. Sheet flow is into a channelized unnamed tributary of Snow Creek (Plates 5 & 7). There were no well-defined erosion channels present at the time of the April 18, 2000 site investigation. The area immediately north of the depot contains two residences and two businesses; Precision Parts Rebuilders, which is out of business and an ABC store (Plates 6 & 8). The area immediately east of the site has an empty lot, a closed rooming house and the Opportunity Center operation. The area immediately to the west has two sets of railroad tracks and single former large textiles site that is in the process of being demolished. Thirty-nine residences are located on the west side of the former Anniston Manufacturing operation. The southern end of the property is bordered by an empty lot and out of business Malden Poultry Company.

The closest residences of which there are two are located to the north and upgradient of the site. The eastern residences are located one half mile of a mile away on Leighton Avenue. The southern residences are located more than one half of a mile south on Glen Addie Avenue. The western residences are located approximately 700 feet away Pine Avenue and its offshoot streets adjacent to Chalk-Line, Inc.

2.3 Operational History and Waste Characteristics

The depot known as Union Station in 1888 was originally founded and owned by Samuel Noble, one of the city's major founding fathers. At some undermined time frame, the site became the property of the L & N Railroad Company. Sanborn maps dated 1925 and 1940, and located in the Anniston Public Library provided the majority of the information on the site (Att. 11). The original site dates to the 1860's and through the years serviced the Anniston & Cincinnati RR, the Tennessee, Virginia, & Georgia RR, the Georgia Pacific RR, the Louisville & Nashville RR, and probably a host of others. Little is known of the actual operation undertaken at the site other than that the site was a fully operational train station for at least 75 years. There are no ADEM records of any types of waste being generated at this site.

3. GROUND WATER PATHWAY

3.1 Hydrogeologic Setting

The L & N Railroad Depot site is situated in southeastern Calhoun County in what is considered to be the Wiesner Ridges physiographic district of the Alabama Valley and Ridge physiographic section. The surface elevations for the Wiesner Ridges District typically range from 640 to 2100 feet above mean sea level (MSL) (Planert and Pritchett, 1989). The surface elevation at the site is approximately 680 feet MSL (Ref. 3, Att. 3 & 4).

Calhoun County is located northeast of the southern terminus of the Alabama section of the Appalachian Valley and Ridge physiographic province. This province is characterized by linear northeast-southwest trending valley and ridges that are underlain by metasedimentary and sedimentary rocks. The section of the Valley and Ridge located in Calhoun County is subdivided into the Cahaba Ridges district, the Cahaba Valley district, the Coosa Ridges district, and the Coosa Valley district. The ridges consist of resistant sandstone and chert-bearing units and the valleys consist of carbonate rocks and shale. Rock units in Calhoun County range in age from Cambrian to Pennsylvanian and have been deformed by folding and thrust faulting (Tew, 1986).

The L & N Railroad Depot site is located within the outcrop area of the Cambrian age Shady Dolomite. The Cambrian age Shady Dolomite is described by Moser and DeJarnette, 1992, as: Bluish-gray or pale-yellow thick bedded siliceous dolomite with coarsely crystalline porous chert. Thickness range of the Shady Dolomite below Calhoun County is approximately 500 feet (Att.s 2 thru 4) (Ref. 3).

Consolidated sedimentary rocks that range in age from the Cambrian to Pennsylvanian underlie the majority of Calhoun County These rocks have been sharply folded into a series of northeast trending anticlines and synclines complicated by thrust faults. In the extreme southeastern portion of the county metamorphic rocks of the Piedmont have been thrust up to the northwest and overlie sedimentary of Cambrian and Ordovician age.

An unnamed fault traverses approximately .2 miles to the southwest of the site, another unnamed fault traverses approximately .5 miles to the northeast of the site, the Jacksonville Fault traverses approximately 1.2 mile to the northwest of the site, and the Cartersville Fault traverses approximately 1.75 miles to the southeast of the site. The site is located in an area that is highly susceptible to karst formation and, therefore, correspondingly susceptible to contamination from surface or near surface sources. The depth to the shallowest aquifer for the site could be as little as 25 feet (Att. 3).

3.2 Ground Water Targets

The L & N Railroad Depot site is located within the recharge area for the Valley and Ridge aquifer system, and in the outcrop area of the Shady Dolomite. Groundwater in these units occurs in interconnected solution channels containing potentially large amounts of water. Wells completed in the Shady Dolomites have yielded 69 to 472 gpm (Moser and DeJarnette, 1992).

There are two active public water supply wells located within 4 miles of the site (Att. 4, 5). The closest active public water supply well is operated by the Union Foundry, and is located approximately 1.2 miles to the northwest of the site. The other well is operated by the Lee Brass Company and is located approximately 3.75 miles to the southwest of the site. The site is not in a designated wellhead protection area; however, wellhead protection areas are located within four miles of the site (Ref. 3 & 10, Att. 4 & 16).

3.3 Ground Water Conclusions

The two active public water supply wells serving Lee Brass and Union Foundry are located within 4 miles of the site. New domestic and industrial wells could possibly be located within a four-mile radius of the site, and the wells that have been identified within a four-mile radius of the site could have been abandoned or may no longer be in use (Ref. 11). Even under the assumption that no release to groundwater has occurred, the L & N Railroad Depot site warrants further investigation due to the relative proximity to public water supply wells, the karst geology of the region, and the potential proximity to the shallowest aquifer.

The Anniston Water And Sewer Board receives no water from the aforementioned public water supply wells. No customers receive their public water from the City of Anniston via groundwater wells that could be subject to potential contamination from the L & N Railroad Depot site via the groundwater pathway (Att. 16, Ref. 10).

4. SURFACE WATER PATHWAY

4.1 Geomorphologic Setting

Surface water drainage from sheet flow appears to enter directly into a single unnamed tributary of Snow Creek and also directly to Snow Creek. The unnamed tributary is not listed in the ADEM Admin. Code R. 335-6-11-.02 with a use classification. However, it is noted in the regulations that segments not listed should be designated as Fish and Wildlife classification. The section of Snow Creek within 15 miles downstream of the site is listed with a use classification of Fish and Wildlife (Ref. 6). The overland drainage from the L & N Railroad Depot site is easterly and directly into two unnamed tributaries of Snow Creek, drainage will also occur directly to Snow Creek on the southern border of the property (Plate 7, Att. 5). Snow Creek flows approximately 2.8 miles southward into Choccolocco Creek. Choccolocco Creek continues for the remainder of the targeted 15-mile downstream surface water pathway.

In the 15-mile surface water pathway, Choccolocco Creek has an average flow of 343-cfs (Ref. 12, Att. 21). The lowest flow to which Choccolocco Creek will decline during 7 consecutive days on an average of once every 2 years of normal flow (7-day Q2) is estimated to be 53 cfs. The 7-day Q10 is estimated to be 34 cfs. (Ref. 5 & 12)

4.2 Surface Water Targets

The 15-mile downstream surface water pathway (SWP) begins at the L & N Railroad Depot site and flows to an unnamed tributary of Snow Creek on the site, to the south directly into Snow Creek and to the east into another unnamed tributary of Snow Creek. Snow Creek travels in a southern direction until it reaches Choccolocco Creek (Att. 5). Within the 15-mile SWP, the unnamed tributaries of Snow Creek, Snow Creek, and Choccolocco Creek all have the Fish & Wildlife classification (Ref. 6). Choccolocco Creek has a history of Fish Consumption Advisories (Ref. 15, Att. 22).

Along the entire targeted overland drainage and surface water pathways there are no known wetlands that could come in contact with water from the site (Ref. 1, Att. 5). The L & N Railroad Depot site, and the land along the banks of Snow Creek, Choccolocco Creek, and their tributaries might be critical to the support of many threatened and endangered terrestrial species. The following table lists the aquatic wildlife that is thought to have a high probability of being exposed to contaminants from the L & N Railroad Depot site if a substantial amount of hazardous constituents were to enter into the surface water pathway:

Common Name	*Listing*	*Distribution in Alabama*
Blue Shiner	Threatened	Coosa River
Upland Combshell Mussel	Endangered	Coosa River
Southern Acornshell Mussel	Endangered	Coosa River
Fine-Lined Pocketbook Mussel	Threatened	Coosa River
Alabama Moccasinshell Mussel	Threatened	Coosa River
Southern Clubshell Mussel	Endangered	Coosa River
Southern Pigtoe Mussel	Endangered	Coosa River
Ovate Clubshell Mussel	Endangered	Coosa River
Triangular Kidneyshell Mussel	Endangered	Coosa River
Tulotoma Snail	Endangered	Coosa River
Goldline Darter	Threatened	Calhoun County
Orange-nacre Mucket	Threatened	Calhoun County
Coosa Moccasinshell Mussel	Endangered	Coosa River

(Ref. 7 & 8; Att. 17, 18)

4.3 Surface Water Conclusion

A release to the surface water pathway is possible. Approximately half of the property is either paved or under roof. Soil samples taken on site also indicate contamination from PCBs, lead, and other heavy metals (Ref. 13 & 14, Att. 7, 8, 12, 23, & 24).

SAMPLE ID	Field Screening PCBs in ppm	XRF Screening Pb in ppm	XRF Screening Fe in ppm
PB-023-01	280	231 & 376	9625 & 10,796
PB-023-02	29	287 & 194	32,588 & 44,876

(Att. 7, 8, & 12)

The site's potential for further impacting Snow Creek, Choccolocco Creek, and their tributaries warrant additional study in this area. The ongoing evaluation of Anniston has indicated that flooding of properties during storm events is common. Since contaminants were identified onsite, there is a potential for offsite migration and deposition downgradient and or downstream. Current data indicates numerous residential properties in the vicinity of 11½ Street through 12th Street along Pine Street located to the west of the site have lead concentrations above 400 ppm based on XRF data. Further assessment is necessary to identify the source of the lead.

5. SOIL EXPOSURE AND AIR PATHWAY

5.1 Physical Conditions

The Soil Conservation Service (SCS) classifies soils at the L & N Railroad Depot site as Anniston gravelly clay loam, 2 to 6 percent slopes eroded (Ref.s 3 & 4, Att. 4). The soils in this classification are described by the SCS soils that have developed in old alluvium on foot slopes and fans along the bases of mountains. The surface layer consists of reddish-brown to dark brown gravelly loam, and is underlain by dark red to yellowish-red silty clay loam or clay loam. These soils are moderately permeable (Harlin and Perry, 1961).

5.2 Soil and Air Targets

There is a two-person demolition crew presently working at the L & N Railroad Depot site. Residences are located as close as 100 feet from the site. Nearest schools and student populations are listed in the table located on the following page.

Distance Ring	DATA ON SCHOOL SYSTEMS AND DIRECTION FROM SOUTHEAST REFRACTORIES, INC. (SRI)		
	School Name	Direction from SRI	Population of School (School System)
0.0-0.25	None	NA	0
0.25-0.5	Cobb Ave. Elementary E. Hall Headstart Randolph Park Elem.	W W N	356 A 260 P 234 A
0.5-1.0	Anniston High School	E	954 A
1.0-2.0	Constantine Elementary Norwood Elementary Sacred Heart Catholic School Tenth Avenue School	S N N E	234 A 343 A 190 C 178 A
2.0-3.0	Donoho School Calhoun Co. Area Vocational School Johnston Elementary Saks Elementary Saks Middle Saks High School	SE S S N N N	530 P 28 CC 383 A 794 CC 511 CC 865 CC
3.0-4.0	None	NA	0
Total Number of Schools: 14		Total Population	5,860
Schools system designations: A = Anniston City Schools; C = Catholic Schools; CC = Calhoun County Schools; P = Private Schools			

(Att. 20)

No daycare operations were observed within 1/2 of a mile of the site during the reconnaissance. According to the Alabama 1990 census records, the average number of people living in homes located in Calhoun County, Alabama is 2.59 residents per household (Att. 19). In the following table, the total population within the target area has been broken down into sub-populations that live within each specified distance radius from the site: (The table is on the next page.)

DISTANCE FROM SITE	*POPULATION*
¼ Mile	496
½ Mile	1976
1 Mile	4909
2 Miles	11332
3 Miles	9859
4 Miles	11007
TOTAL POPULATION	**39083**

(Att. 5 & 19)

None of the L & N Railroad Depot site is considered to be a wetland environment. Within the 4-mile target area and the 15-mile surface water pathway are no known wetlands. It is not known if the L & N Railroad Depot site is a critical habitat for federally designated endangered or threatened species, but the table located on the next page lists the terrestrial species that may utilize the land and surface waters located within the specified target areas:

Common Name	Listing	Distribution in Alabama
Florida Panther	Endangered	Statewide
Bald Eagle	Threatened	Statewide
Red Wolf	Endangered	Statewide
Backman's Warbler	Endangered	Statewide
Wood Stork	Endangered	Statewide
Ivory-billed Woodpecker	Endangered	South, West-Central
Red-cockaded woodpecker	Endangered	Statewide
Gray Bat	Endangered	Calhoun County
Indiana Bat	Endangered	Calhoun County
American Pergrine Falcon	Endangered	Statewide
Eskimo Curlew	Endangered	Statewide
Bachman's Warbler	Endangered	Statewide

(Ref. 7 & 8, Atts 17 & 18)

5.3 Soil Exposure and Air Pathway Conclusion

Soil samples taken on site indicate contamination from PCBs, lead, and other heavy metals (Att. 7, 8, & 10). There are no obvious air targets or potential air migration pathways evident at the L & N Railroad Depot site. During operation of the facility, air releases could have been possible.

6. SUMMARY AND CONCLUSIONS

No records exist in identifying the exact types and volumes of wastes disposed, or otherwise released at the L & N Railroad Depot site. A search for industrial wastewater, LUST, and UST records was negative. Current conditions indicate that the known existing contamination at this site has the potential to impact both groundwater and surface water. Additionally, contaminants lost from the site could conceivably be redeposited at other areas that are down gradient.

Due to the site's relation to the pathways to groundwater and surface water, the potential for migration along these pathways clearly exists. Because of this potential for contamination, and the size of the population such contamination could, theoretically, effect, it is recommended that the L & N Railroad Depot site be further evaluated under the authority of CERCLA/SARA.

7. REFERENCES

1. U.S.G.S. 7.5 Minute Series Topographic Quadrangle Maps of Alabama: Oxford, Alabama, 1956; (Photorevised, 1983), Mumford, Alabama, 1956; (Photorevised 1983), Anniston, Alabama, 1956; (Photorevised, 1972), Choccolocco, Alabama, 1954; (Photorevised, 1983), Eulaton, Alabama, 1956; (Photorevised, 1972), Hollis Crossroads, Alabama, 1967. Scale 1:24,000.

2. State of Alabama Department of Revenue Ad Valorem Tax Division, County of Calhoun: Map 58-05-07-35. February, 1978 (Revised 1992).

3. Alabama Department of Environmental Management. Memorandum. Gibson, Joe, Groundwater Branch, March 3, 1999. Preliminary Assessment – Groundwater. L & N Railroad Depot.

4. Stephens, Robert W., United States Department of Agriculture Soil Conservation Service and Forest Service in cooperation with Alabama Department of Agriculture and Industries and Alabama Agricultural Experiment Station, 1984, Soil Survey of Calhoun County, Alabama.

5. Hayes, Eugene C., Geological Survey of Alabama, 1978, 7-Day Low Flows and Flow Duration of Alabama Streams Through 1973. Geological Survey of Alabama Bulletin 113.

6. Alabama Department of Environmental Management; Water Division - Water Quality Program, 1997, Water Use Classification for Interstate and Intrastate Waters, Chapter 335-6-11.

7. Alabama Department of Conservation and Natural Resources. Alabama Game and Fish Division. Federally Listed Endangered/Threatened Species of Alabama. August 8, 1997.

8. U.S. Fish and Wildlife Service. Daphne Field Office. Alabama's Federally Listed Species (By County). September 1997.

9. Federal Emergency Management Agency. Federal Insurance Administration. Flood Insurance Rate Map #010023 0003 C. City of Anniston, Alabama. Revised February 3, 1993.

10. Alabama Department of Environmental Management, Federal Reporting Data System (FRDS-II), Public Water Supply Summary for Selected Areas of Calhoun and Talladega Counties.

11. Alabama 1996 Clean Water Strategy Report, Coosa River Basin Dischargers.

12. USGS Water Resources Data Alabama Water Year 1999.

13. Analysis Paper: Impact of Lead-Contaminated Soil on Public Health, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, Public Health Service, Agency for Toxic Substances and Disease Registry.

14. Evaluation of Soil, Blood, & Air Data From Anniston, Alabama, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, Public Health Service, Agency for Toxic Substances and Disease Registry.

15. Fish Consumption Advisories, Alabama Department of Public Health

REFERENCES

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1. U.S.G.S. 7.5 Minute Series Topographic Quadrangle Maps of Alabama: Oxford, Alabama, 1956; (Photorevised, 1983), Mumford, Alabama, 1956; (Photorevised 1983), Anniston, Alabama, 1956; (Photorevised, 1972), Choccolocco, Alabama, 1954; (Photorevised, 1983), Eulaton, Alabama, 1956; (Photorevised, 1972), Hollis Crossroads, Alabama, 1967. Scale 1:24,000.

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15. Fish Consumption Advisories, Alabama Department of Public Health

PLATES

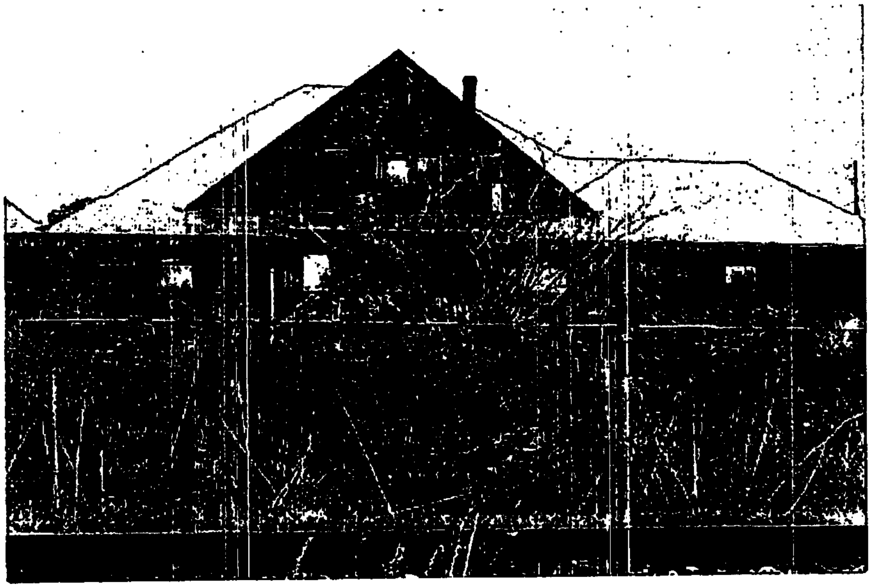


Plate 1
View of Railroad Station from west side of site.

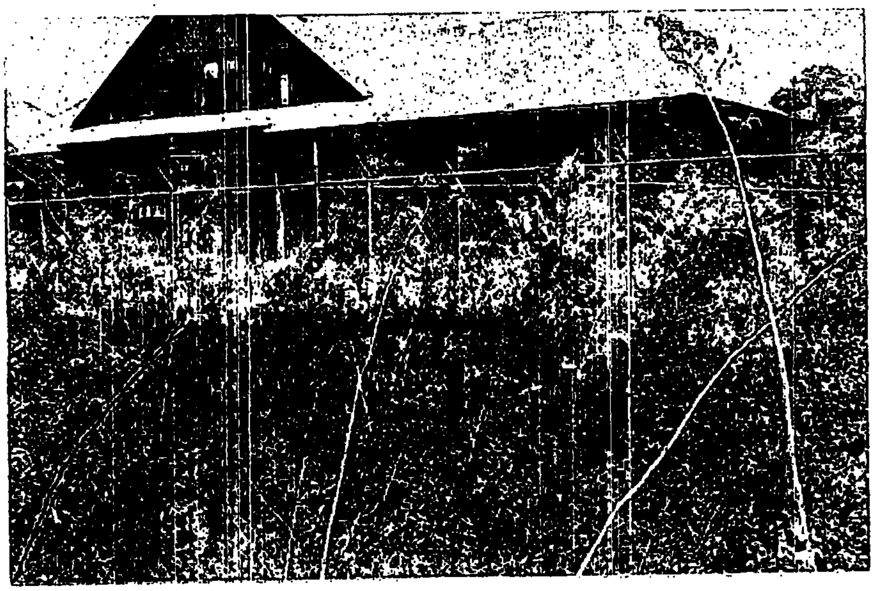


Plate 2
View of Railroad Station from southwest.

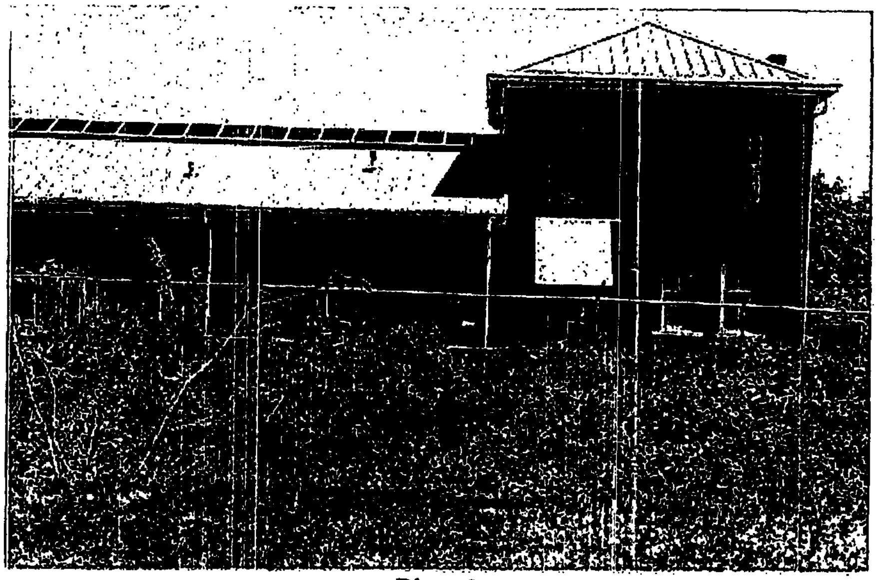


Plate 3
View of Railroad Freight Station from west.

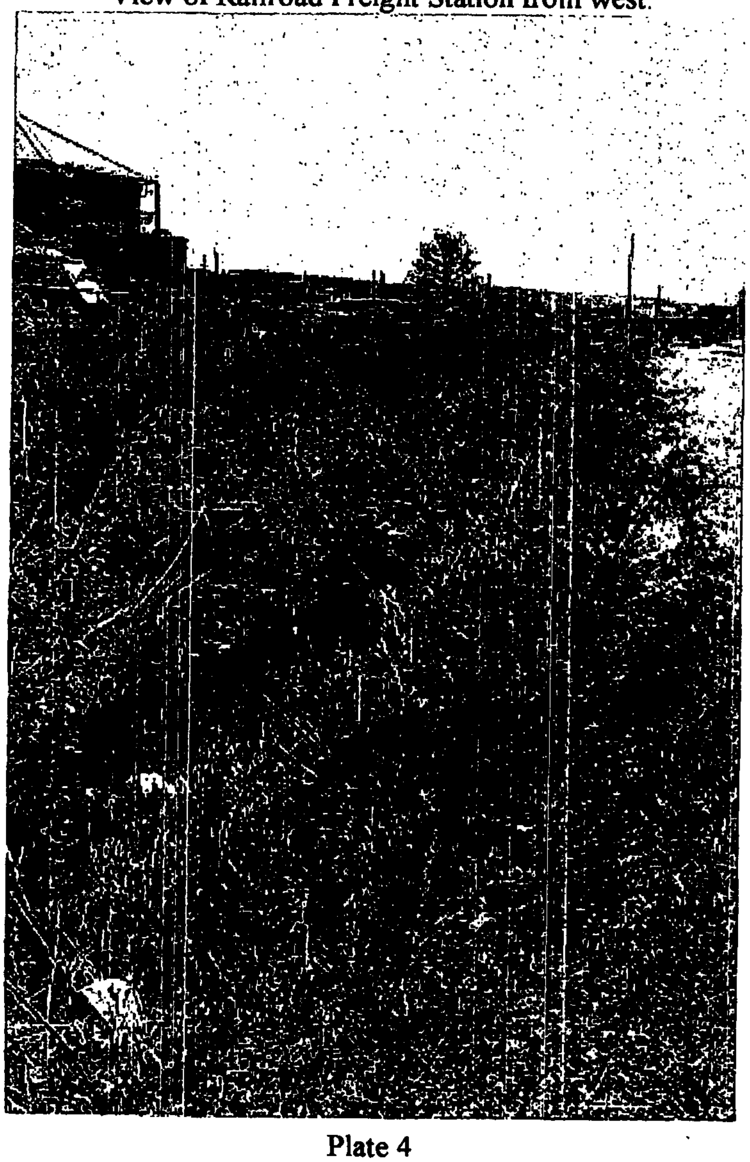


Plate 4
View of unnamed tributary of Snow Creek flowing along the west side of the L & N Site.

Plate 5
View of L & N Site from southwest corner.

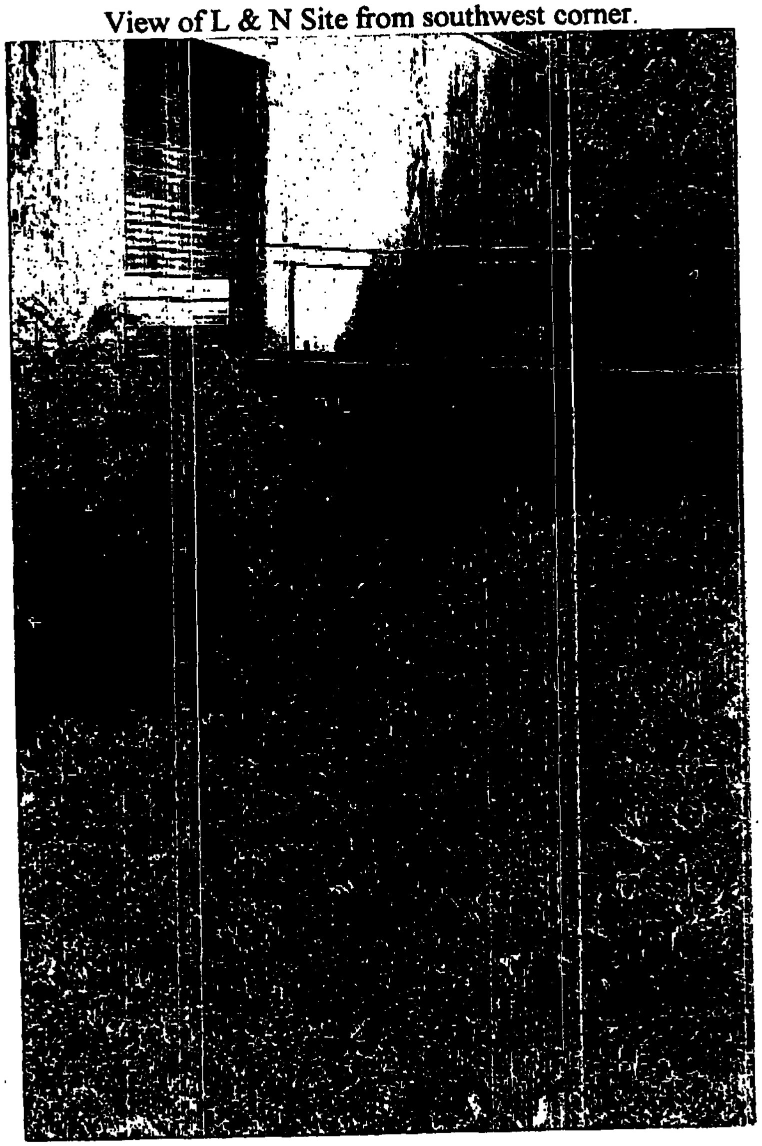


Plate 6
View of Precision Parts Rebuilders on northern boundary of site.

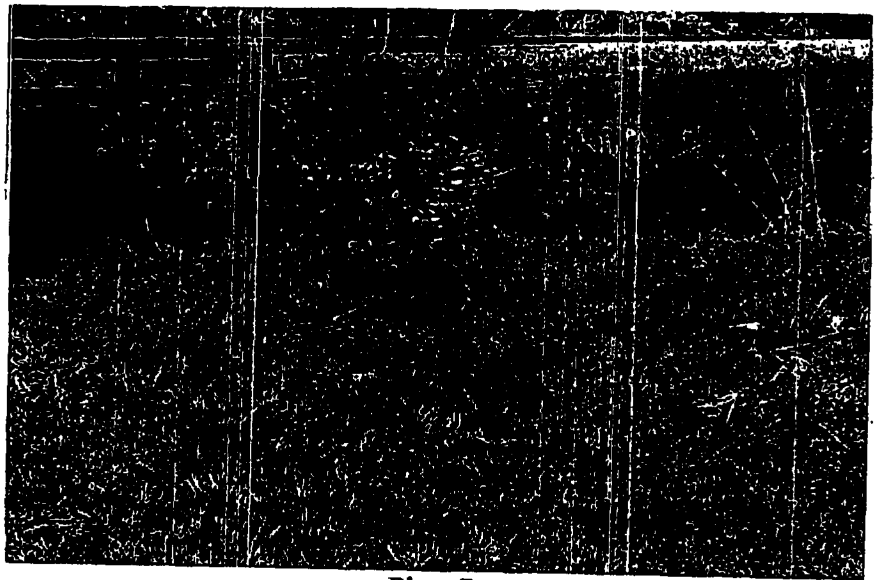


Plate 7
View of Snow Creek on southern boundary of site.

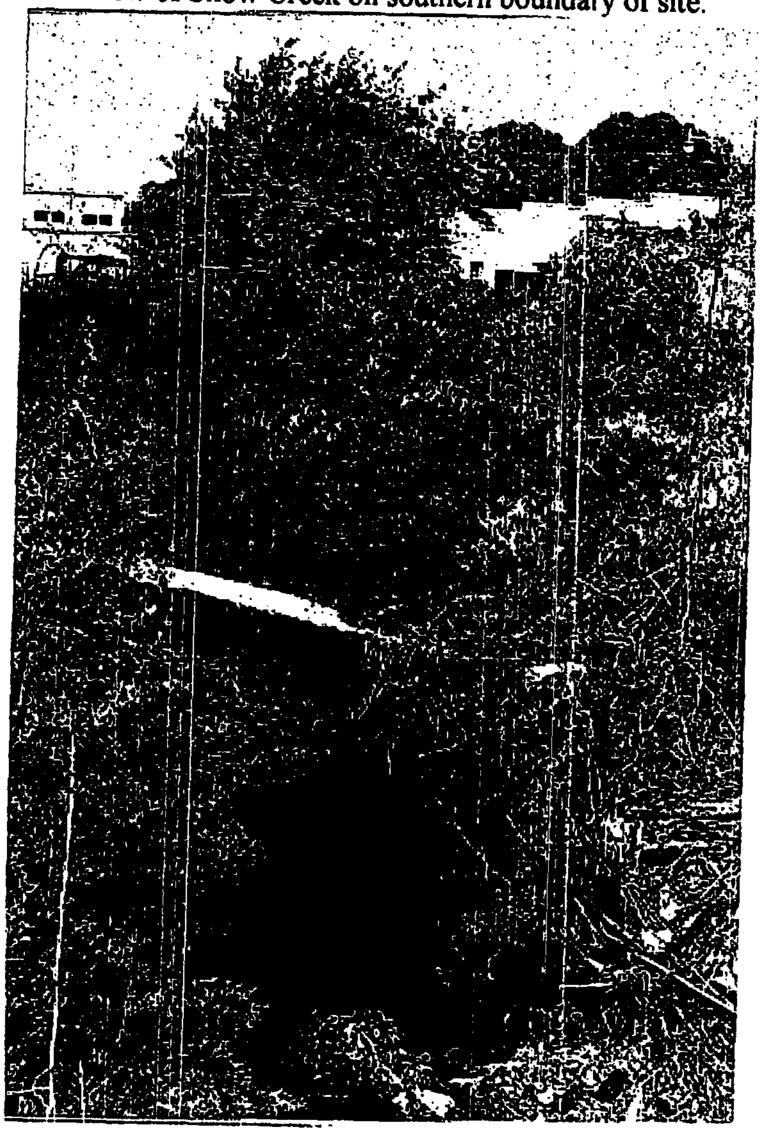


Plate 8
View of bridge at northern boundary of site.

ATTACHMENTS

ATTACHMENT 1

L & N Railroad Depot

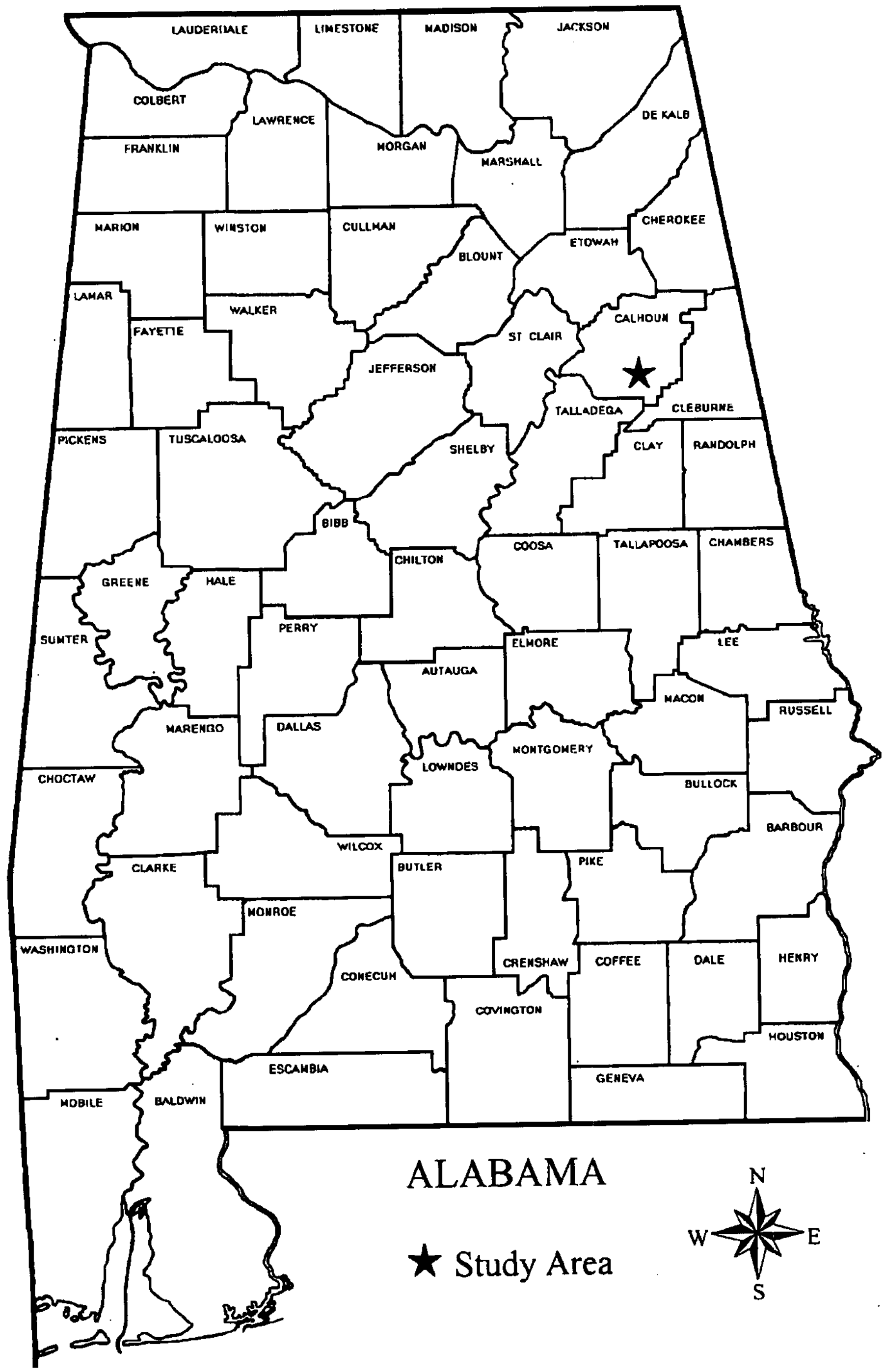
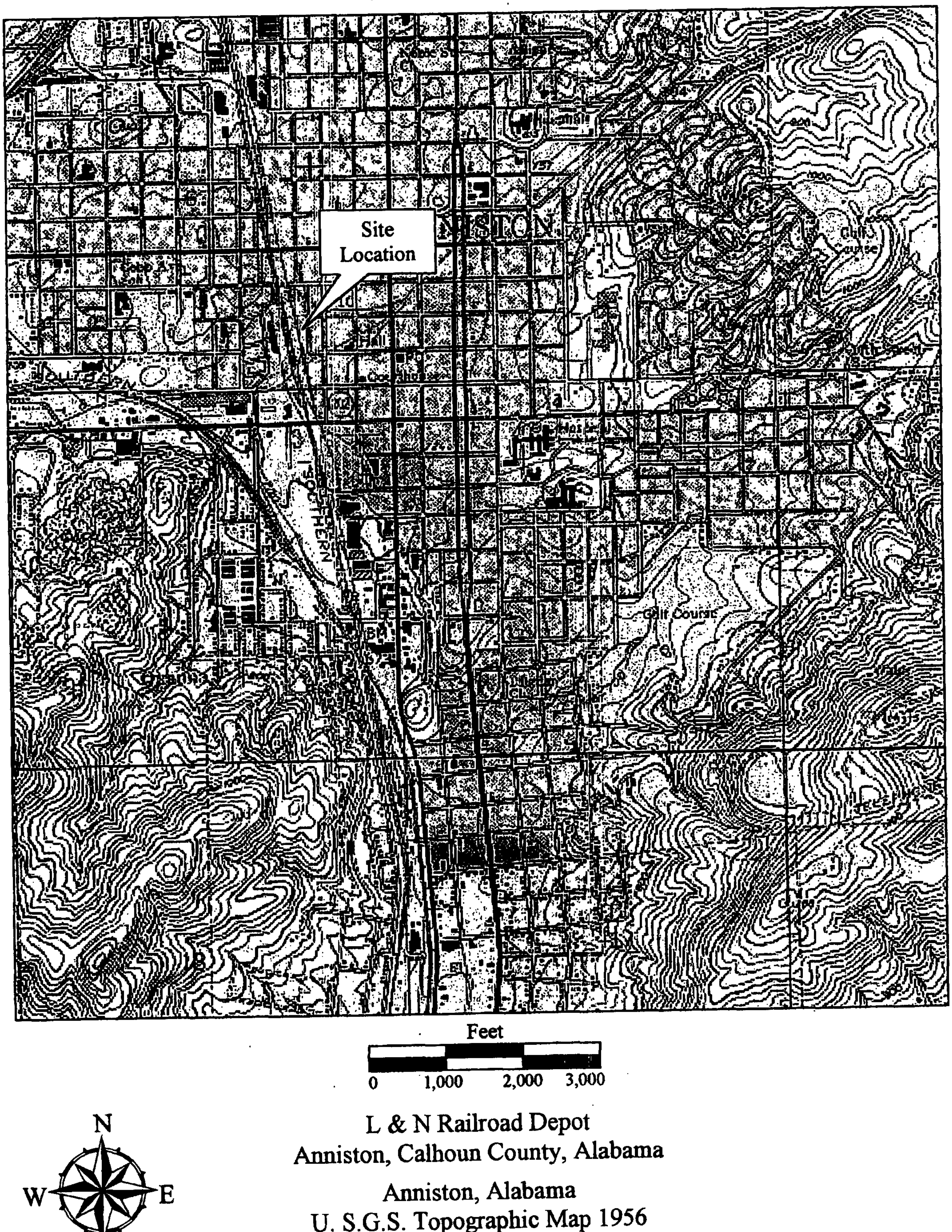


Figure 1

ATTACHMENT 2

Site Location Map



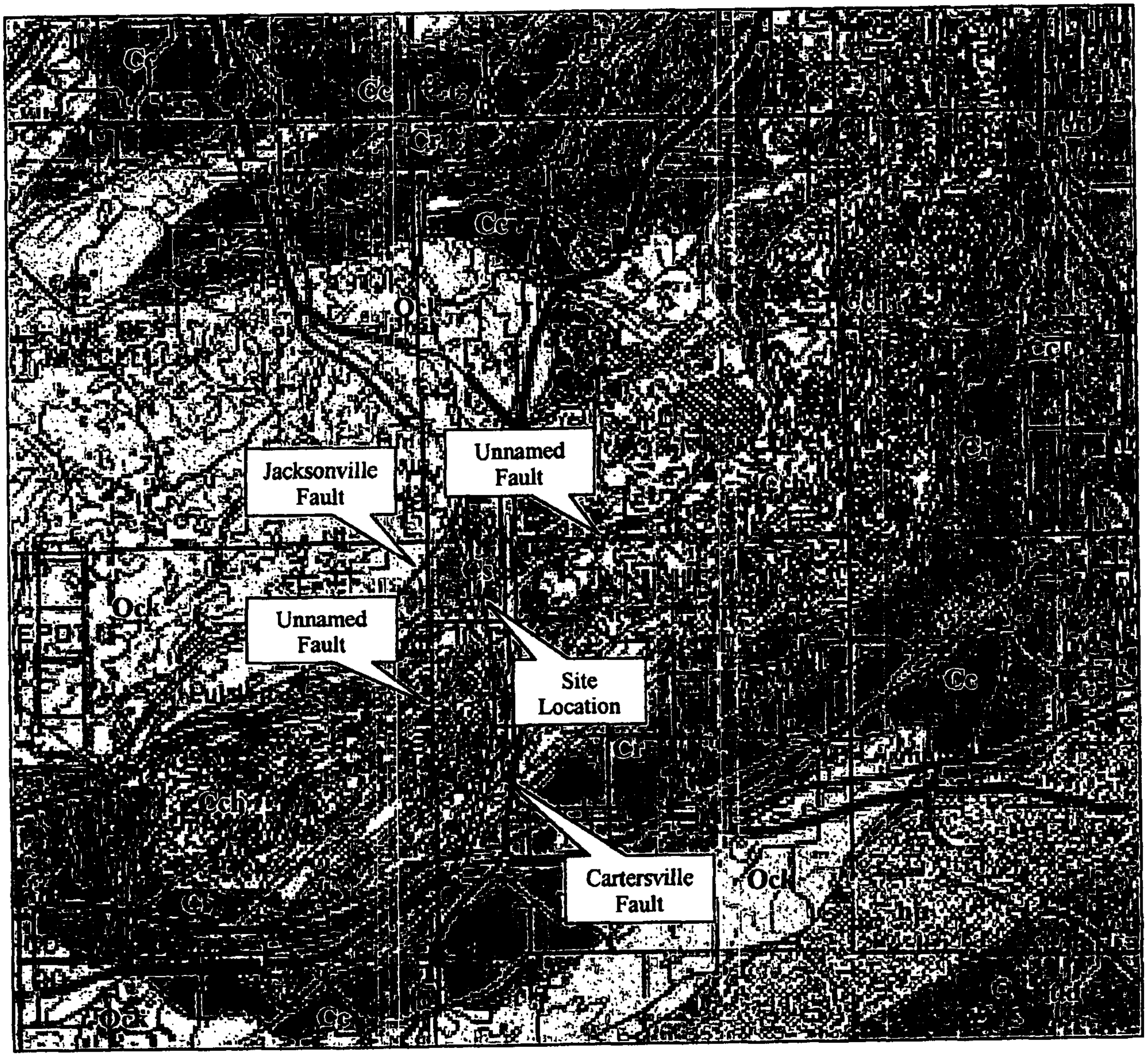
L & N Railroad Depot
Anniston, Calhoun County, Alabama

Anniston, Alabama
U. S.G.S. Topographic Map 1956
Photo Revised 1972

Figure 2

ATTACHMENT 3

Geologic Units and Structures Near L & N Railroad Depot

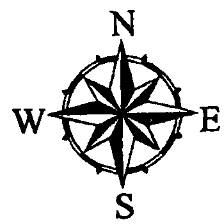


Ock - Knox Group Undifferentiated
Cc - Conasauga Formation
Cr - Rome Formation
Cs - Shady Dolomite
Cch - Chilhowee Group
tld - Lay Dam Formation
hp - Heflin Phyllite

▼▼▼ - Thrust Fault

Miles

0 1 2 3



Geologic Map of Alabama
Northeast Sheet 1988
W.E. Osborne, Michael W. Szabo, Thornton L. Neathery, and Charles W. Copeland Jr.
Geological Survey of Alabama Special Map 220

Figure 3

ATTACHMENT 4

May 25, 2000

MEMORANDUM

TO: Stephen A. Cobb, Chief
Hazardous Waste Branch
Land Division

FROM: Joseph L. Gibson, Hydrogeologist
Groundwater Branch
Water Division

RE: Preliminary Assessment - Groundwater
L & N Railroad Depot
Anniston, Calhoun County, Alabama

The following groundwater report was prepared through a search of literature and information available to the Groundwater Branch. The author has not conducted a site reconnaissance and the findings in this report have not been field verified.

LOCATION

The L & N Railroad Depot is located in Anniston, Calhoun County, Alabama (Figure 1). The United States Geological Survey's (USGS) 7.5 Minute Quadrangle Map entitled Anniston, Alabama shows the location of the site to be in the southeast ¼ of the southeast ¼ of Section 6 Township 16 South, Range 8 East (Figure 2). The latitude and longitude have been estimated to be 33° 39' 37" North Latitude and 85° 50' 04" West Longitude.

TOPOGRAPHY AND SURFACE WATER

The site is situated in southern Calhoun County in what is considered to be the Weisner Ridges physiographic district of the Alabama Valley and Ridge physiographic section. The Weisner Ridges physiographic district consists mainly of Coldwater and Choccolocco Mountains where altitudes are as high as 2,100 feet. Surface water drainage in this district is mainly into tributaries of the Coosa River (Planert and Pritchett, 1989). The surface elevation at the site is approximately 710 feet MSL.

Surface water drainage from the site appears to be to the south into an unnamed tributary of Snow Creek. The unnamed tributary of Snow Creek flows approximately 2,500 feet to the south into Snow Creek. Snow Creek flows approximately 3.25 miles to the south into Choccolocco Creek. Choccolocco Creek flows to the west and makes-up the remainder of the 15-mile surface water pathway from the site. The unnamed tributary of Snow Creek is not listed in the ADEM Admin. Code R. 335-6-11-.02 with a use classification. However, it is noted in the regulations that segments not listed should be designated as fish and wildlife. Snow Creek and Choccolocco Creek are listed with a use classification of fish and wildlife. Choccolocco Creek has a seven day ten year low flow rate of 34 cfs and a seven day two year low flow rate of 53 cfs. No low flow data was available for the unnamed tributary of Snow Creek and Snow Creek (Hayes, 1978). No known surface water intakes for public drinking water supplies are located along the 15-mile surface water pathway from the site.

SOILS

The Soil Conservation Service (SCS) classifies soils at the L & N Railroad Depot as Anniston and Allen gravelly loam, 2 to 6 percent slopes, eroded. The soils in this classification are described by the SCS as friable soils that have developed in old alluvium on foot slopes and fans along the bases of mountains. The surface layer consists of reddish-brown to dark brown gravelly loam, and is underlain by dark red to yellowish red silty clay loam or clay loam. These soils are moderately permeable (Harlin and Perry, 1961).

GEOLOGY

Consolidated sedimentary rocks that range in age from Cambrian to Pennsylvanian underlie the majority of Calhoun County. These rocks have been sharply folded into a series of northeast trending anticlines and synclines complicated by thrust faults. In the extreme southeastern portion of the county metamorphic rocks of the Piedmont have been thrust up to the northwest and overlie sedimentary rocks of Cambrian and Ordovician age (Moser and DeJarnette, 1992).

The site is located within the outcrop area of the Cambrian age Shady Dolomite (Figure 3) (Osborne, et al, 1988). The Shady Dolomite is approximately 500 feet thick in Calhoun County and consists of a bluish-gray to pale-yellowish-gray thick-bedded siliceous dolomite. This unit is characterized by coarsely crystalline porous chert (Moser and DeJarnette, 1992). Areas underlain by the Shady Dolomite are susceptible to karst formation.

The Jacksonville Fault traverses approximately 1.2 miles to the northwest of the site, and the Cartersville Fault traverses approximately 1.75 miles to the southeast of the site. Unnamed faults traverse approximately 0.20 miles to the east and 0.5 miles to the southeast of the site. The Jacksonville Fault, Cartersville Fault, and the unnamed faults are thrust faults and generally trend in a northeasterly to southwesterly direction (Osborne, et al, 1988). The structural features in the vicinity of the site (Figure 3) should enhance the fractured nature of the bedrock.

HYDROGEOLOGY

The site is located within the recharge area for the Valley and Ridge aquifer system, and in the outcrop area of the Shady Dolomite. Groundwater in this formation occurs in interconnected solution channels, and potentially large amounts of water can be obtained from these features (Moser and DeJarnette, 1992). Depth to groundwater at the site is expected to be between 0 to 25 feet.

There are two active public water supply wells located within 4 miles of the site. The closest active public water supply well is operated by Union Foundry, and is located approximately 1.2 miles to the northwest of the site. The other public water supply well is operated by Lee Brass Company and is located approximately 3.75 miles to the southeast of the site. The site is not in a designated wellhead protection area, and no wellhead protection areas are located within four miles of the site.

CLIMATE

The climate of Calhoun County is characterized as humid subtropical with hot summers, mild winters, and precipitation during all months of the year. The average annual temperature is approximately 62° with an average annual rainfall of approximately 54 inches. The average temperature in the in the summer is 80° and in the winter is 43° (Moser & DeJarnette, 1992). Approximately 19.7 inches of the 54 inches of rain per year runs off into the streams (Harkins, 1972).

cc: Fred Mason, Chief, Hydrogeology Unit
Jymalyn Redmond, Chief, Site Assessment Unit
Larry Norris, Northern Compliance Section

SELECTED REFERENCES

Harkins, J. R., 1972, Surface-Water Availability, Calhoun County, Alabama: Map 128: Geological Survey of Alabama.

Harlin, William V., and Perry, E. A., 1961, Soil Survey of Calhoun County, Alabama; United States Department of Agriculture, Soil Conservation Service.

Hayes, Eugene C., 1978, 7-Day Low Flows and Flow Duration of Alabama Streams Through 1973, Geological Survey of Alabama, Bulletin 113.

Moser, Paul H., and DeJarnette, S. S., 1992, Ground-Water Availability in Calhoun County, Alabama: To Accompany Special Map 228: Geological Survey of Alabama.

Osborne, W. E., Szabo, M. W., Neathery, T. L., and Copeland, C. W. Jr., 1988, Geologic Map of Alabama, Geological Survey of Alabama, Special Map 220 Northwest Sheet.

Planert, Michael, and Pritchett, J. L. Jr., 1989, Geohydrology and Susceptibility of Major Aquifers to Surface Contamination in Alabama; Area 4, United States Geological Survey, Water Resources Investigation Report 88-4133.

Warman, J. C., and Causey, L. V., 1962, Geologic Map of Calhoun County: Map 17: Geological Survey of Alabama.

GROUNDWATER ROUTE WORKSHEET REQUIREMENTS

Route Characteristics

Aquifer of concern	Valley and Ridge aquifer system
Gross Precipitation	54 inches per year
Net Precipitation	6 inches (from HRS)
Depth to Aquifer	0 to 25 feet
Slope	2 to 6 percent
Permeability of Unsaturated Zone	1.4 X 10^{-3} to 5.6 X 10^{-4} cm/sec
Is the Site Susceptible to Karst	Yes

TARGETS

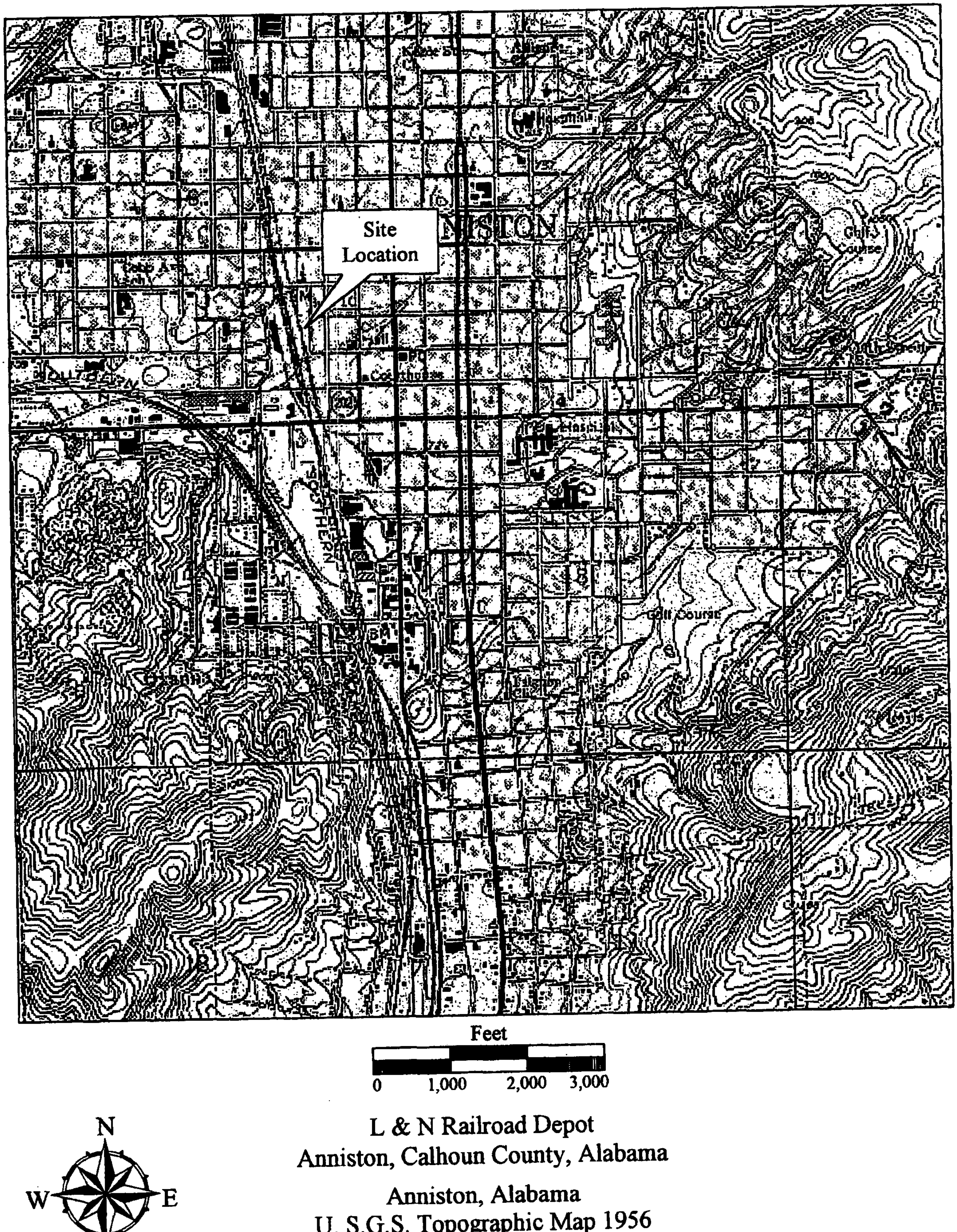
Groundwater use —There are 2 active public water supply wells located within four miles of the site.

Distance to nearest active public water supply well – Approximately 1.2 miles to the northwest of the site.

L & N Railroad Depot

Figure 1

Site Location Map

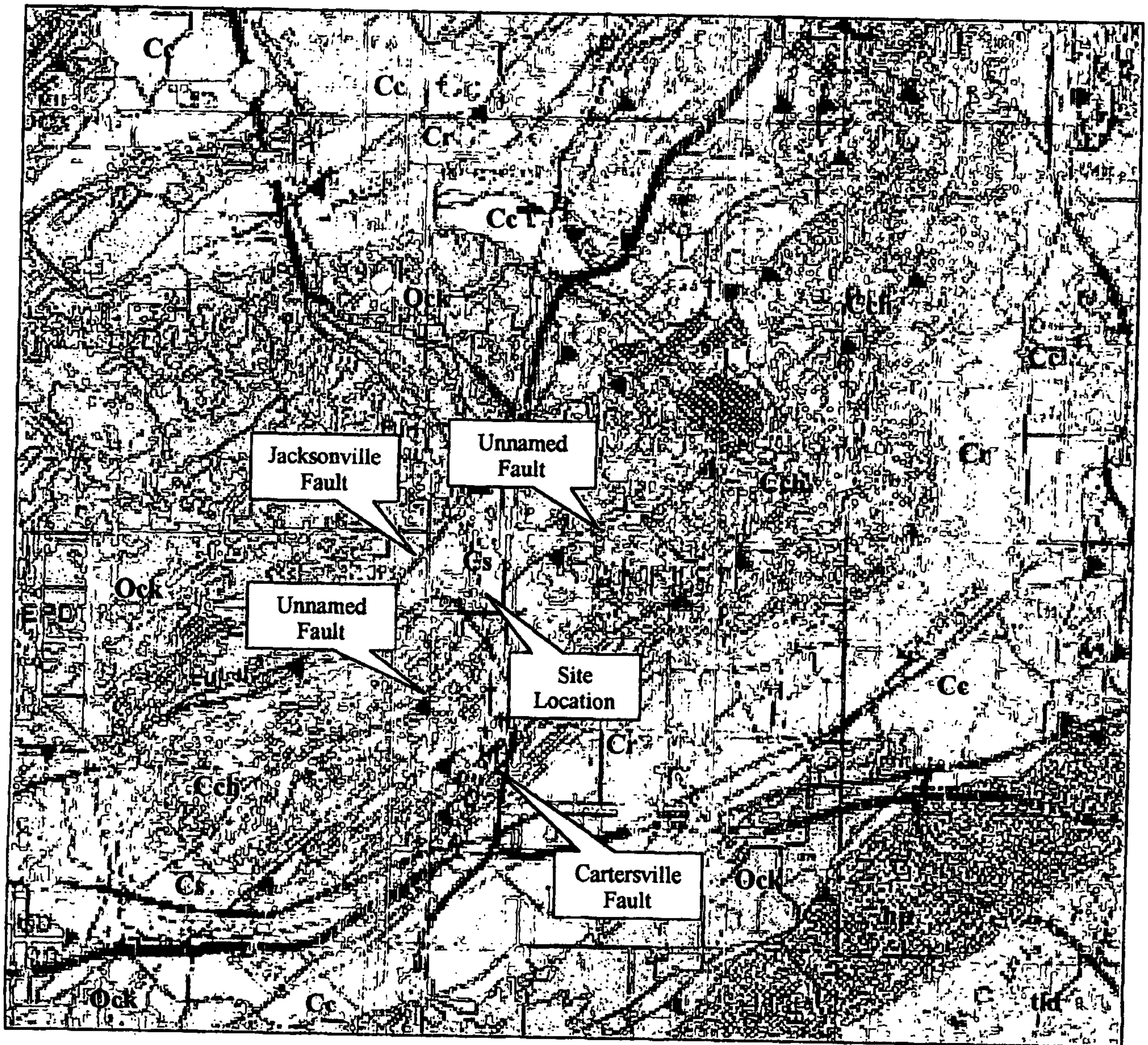


L & N Railroad Depot
Anniston, Calhoun County, Alabama

Anniston, Alabama
U. S.G.S. Topographic Map 1956
Photo Revised 1972

Figure 2

Geologic Units and Structures Near L & N Railroad Depot



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Cc - Conasauga Formation
Cr - Rome Formation
Cs - Shady Dolomite
Cch - Chilhowee Group
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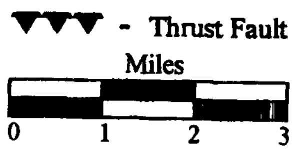
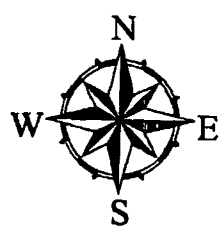




Geologic Map of Alabama
Northeast Sheet 1988
W.E. Osborne, Michael W. Szabo, Thornton L. Neathery, and Charles W. Copeland Jr.
Geological Survey of Alabama Special Map 220

Figure 3

ATTACHMENT 5

U.S. EPA REGION IV

SDMS

Unscannable Material Target Sheet

DocID: 10587874 Site ID: ALSFN0407157

Site Name: L + N Railroad Depot

Nature of Material:

Map:	☒	Computer Disks:	☐
Photos:	☐	CD-ROM:	☐
Blueprints:	☐	Oversized Report:	☐
Slides:	☐	Log Book:	☐

Other (describe): Radius map

Amount of material: ___

* Please contact the appropriate Records Center to view the material *

ATTACHMENT 6

U.S. EPA REGION IV

SDMS

Unscannable Material Target Sheet

DocID: 10587874 Site ID: ALSFN0407157

Site Name: L & N Railroad Depot

Nature of Material:

Map:	☒	Computer Disks:	☐
Photos:	☐	CD-ROM:	☐
Blueprints:	☐	Oversized Report:	☐
Slides:	☐	Log Book:	☐

Other (describe): Ownership Map

Amount of material:

* Please contact the appropriate Records Center to view the material *

ATTACHMENT 7

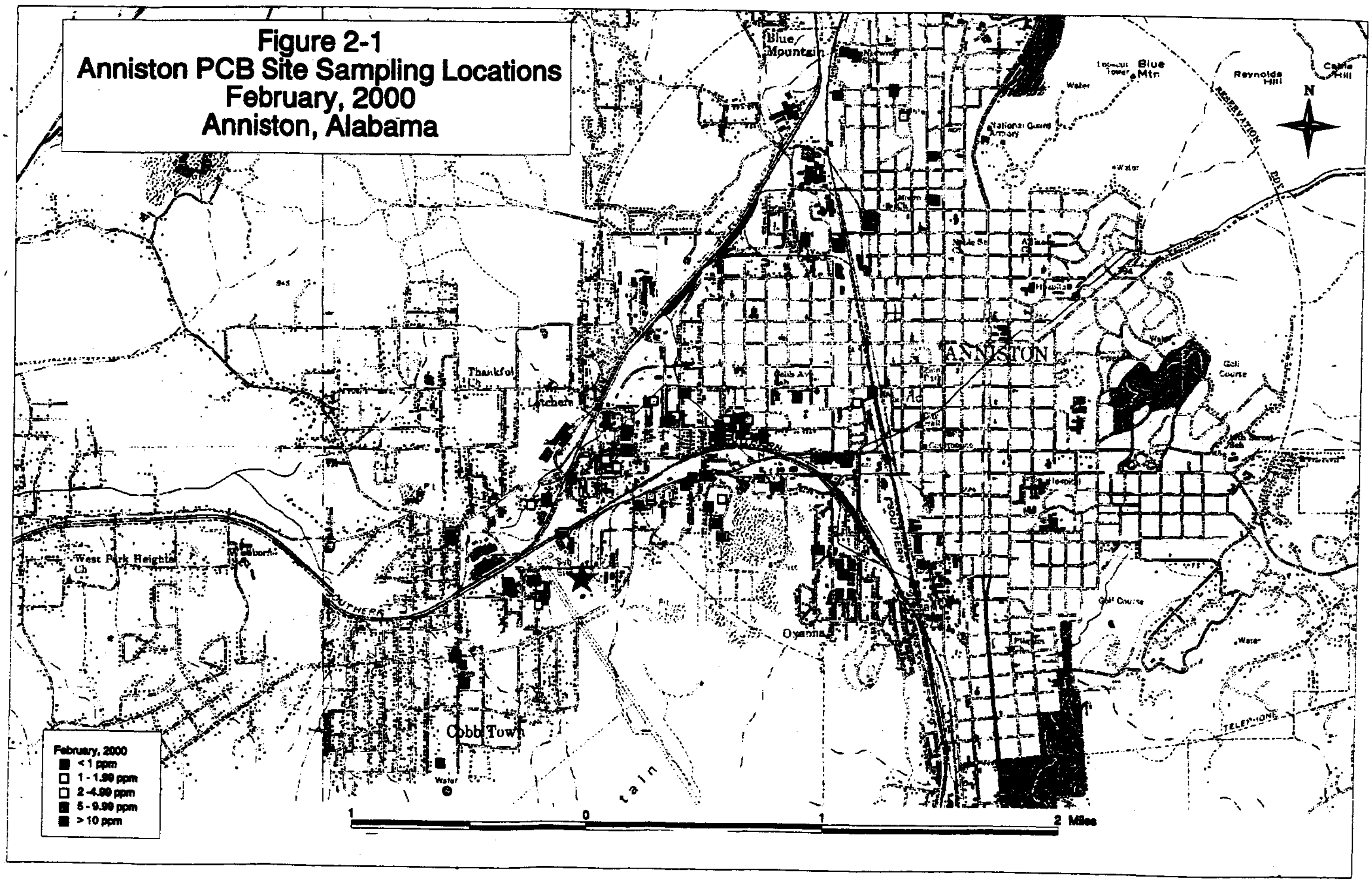
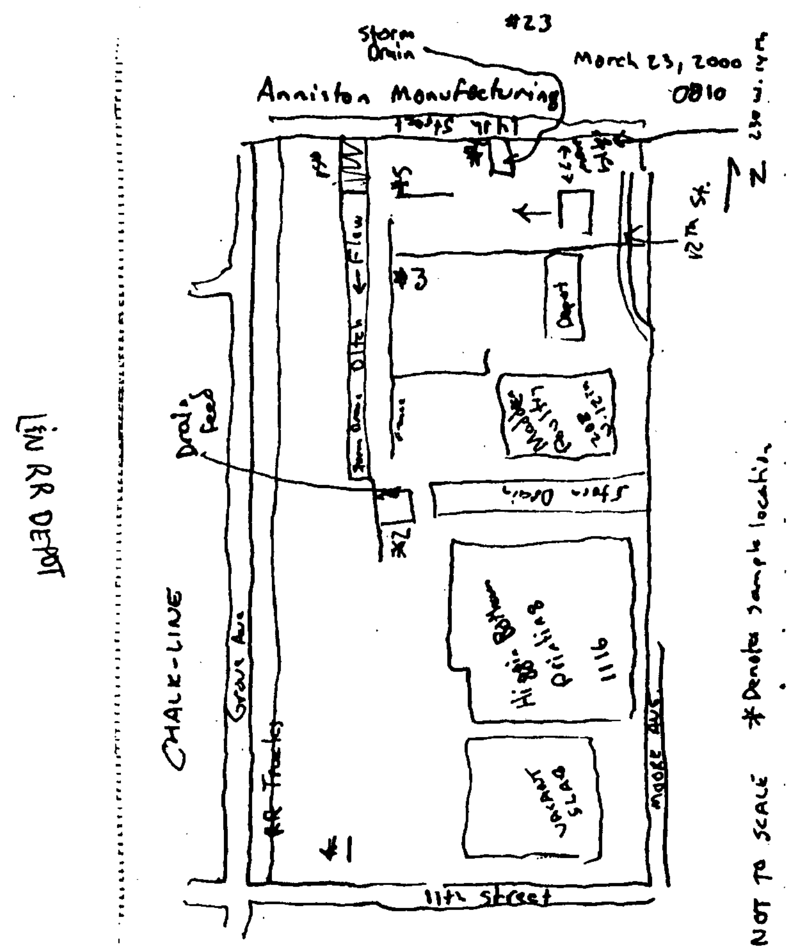


Figure 2-1
Anniston PCB Site Sampling Locations
February, 2000
Anniston, Alabama

ATTACHMENT 8



*1 0906 PB-023-01
≈ 15' N. of 11th
≈ 60' E. of RR Track

*2 0913 PB-023-02
≈ 60' E. of RR Track
≈ 15' S. of Storm Drain

Storm drain water changed from crystal clear to milky cloudy from ≈ 0915-0921
Perceptible solvent odor

*3 0938 PB-023-03
≈ 15' E. of Ditch
≈ 70 yds W. of ~~Moore Ave~~ DIW 12th St.

*4 0949 PB-023-04
≈ 8' W. of Ditch (Storm Drain)
≈ 60 yds E. of RR Tracks

*5 0957 PB-023-05
≈ 2' E. of Storm Drain
≈ 100 yds S. of 14th St.

ATTACHMENT 9

U.S. EPA REGION IV

SDMS

Unscannable Material Target Sheet

DocID: 10587874 Site ID: ALSFN0407157

Site Name: L & N Railroad Depot

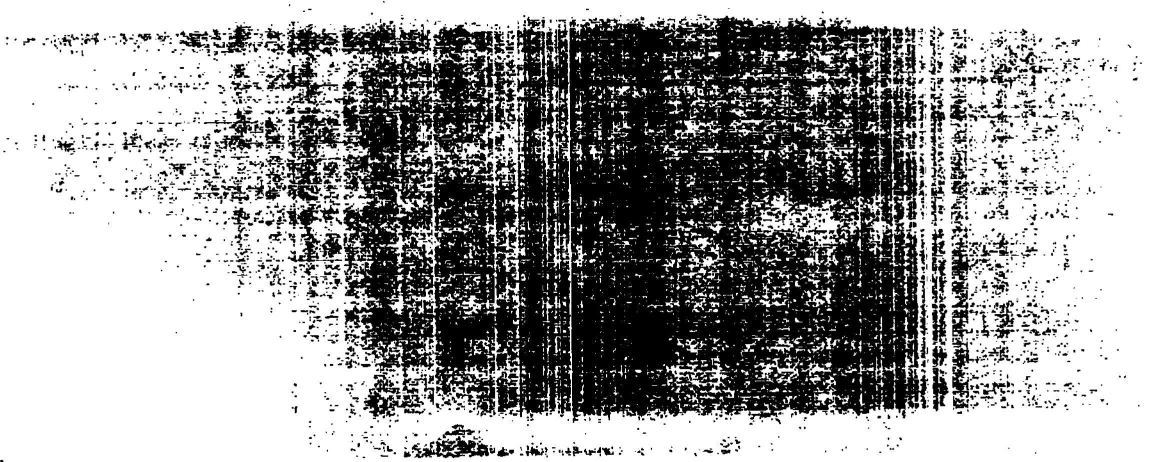
Nature of Material:

Map:	☒	Computer Disks:	☐
Photos:	☐	CD-ROM:	☐
Blueprints:	☐	Oversized Report:	☐
Slides:	☐	Log Book:	☐

Other (describe): Aerial Photo

Amount of material:

* Please contact the appropriate Records Center to view the material *



ATTACHMENT 10

Sample Location	ID No	Cart	Sour	Date/Time	Mo	±Prec	Zr	±Prec	Sr	±Prec	Rb	±Prec	Pb	±Prec	As	±Prec	Hg	±Prec	Zn	±Prec	Cu	±Prec	Ni	±Prec	Co	±Prec	Fe	±Prec	Mn	±Prec	Cr	±Prec
Soil Screening Levels: Ingestion (May 1996) (ppm)					NA		NA		NA		NA		400		0.4		23		23,000		NA		1,600		NA		NA		NA		[illegible]	
Soil Screening Levels: 1 DAF (May 1996) (ppm)					NA		NA		NA		NA		NA		1		0.1		620		NA		7		NA		NA		NA		[illegible]	
Superfund Chemical Data Matrix: Benchmarks (June 1996) (ppm)					390		NA		NA		NA		NA		0.43/22		23		23,000		NA		1,600		NA		NA		11,000		[illegible]	
Risk Based Concentration (RBC) (10/1995) (ppm)					390		NA		47,000		NA		NA		0.43		23/7.4		23,000		3,100		1,600		4,700		23,000		1,600		130,000/390	
[illegible]	229		29.2	3/31/98 13:21	<LOD	23.56	173.7	20.1	20.2	19.6	<LOD	9.48	251	78.6	<LOD	94.3	<LOD	68.46	1200	210	894.6	300	<LOD	99.7	<LOD	22.23	[illegible]	1400	<LOD	[illegible]	<LOD	[illegible]
[illegible]	20		29.2	3/2/98 16:20	<LOD	22.4	174.7	22.2	30.7	16.6	<LOD	9.41	278	83.3	<LOD	89.16	<LOD	68.36	1669.0	220	828	320	<LOD	96.96	<LOD	23.7	10789.6	1400	<LOD	2340	<LOD	[illegible]
[illegible]	221		31.4	3/31/98 13:24	<LOD	11.16	178.4	29.4	40.1	16.6	<LOD	8.2	207	70.7	<LOD	87.6	<LOD	49.26	<LOD	127.8	<LOD	230	<LOD	109.6	<LOD	34.88	[illegible]	2200	<LOD	3000	<LOD	7200.4
[illegible]	99		29.2	3/2/98 11:27	<LOD	21.98	180	23.4	99	19.1	<LOD	9.48	194	78.4	<LOD	94.28	<LOD	82.6	<LOD	185	<LOD	345	<LOD	141.6	<LOD	47.7	44678.6	2300	<LOD	2400	<LOD	[illegible]

No	SAMP_[illegible]	SAMP_ID	SAMP_TYPE	SAM[illegible] Descript	CN_Unit	CN_LabValue	PCB_Unit	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1268	Total Aroclor	Metal_UNIT	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	% Solids
1	PB-002	PB-002-01	SOIL	Ordnance Foundry/Defense Research	(mg/kg)	0.69 U	(ug/kg)	23 UJ	23 UJ	23 UJ	23 UJ	23 UJ	23 UJ	23 UJ	NA	ND	(mg/kg)	6	64	6.4	100	340	0.7	0.34 U	0.83	74
2	PB-002	PB-002-04	SOIL	Ordnance Foundry/Defense Research	(mg/kg)	0.60 U	(ug/kg)	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	NA	ND	(mg/kg)	3.5	49	0.82	31	58	0.10 U	0.30 U	0.30 U	82.7
3	PB-002	PB-002-06	SOIL	Ordnance Foundry/Defense Research	(mg/kg)	0.84 U	(ug/kg)	28 UJ	28 UJ	28 UJ	28 UJ	28 UJ	28 UJ	68 J	NA	68 J	(mg/kg)	11	120	2.8	68	39	0.14 U	0.42 U	0.42 U	68.7
4	PB-003	PB-003-01	SOIL	Rudisill Foundry	(mg/kg)	0.65 U	(ug/kg)	2,200 UJ	2,200 UJ	2,200 UJ	2,200 UJ	2,200 UJ	2,200 UJ	2,200 UJ	NA	ND	(mg/kg)	7.3	100	1	14000	480	0.11 U	0.33 U	0.33 U	78.4
5	PB-003	PB-003-03	SOIL	Rudisill Foundry	(mg/kg)	0.60 U	(ug/kg)	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	140 J	38 J	178 J	(mg/kg)	3.6	64	1.7	18	230	0.10 U	0.30 U	0.30 U	82.7
6	PB-003	PB-003-06	SOIL	Rudisill Foundry	(mg/kg)	0.62 U	(ug/kg)	42 UJ	42 UJ	42 UJ	42 UJ	42 UJ	42 UJ	280 J	100 J	380 J	(mg/kg)	7.6	170	2.3	38	320	0.3	0.31 U	0.31 U	80.1
7	PB-003	PB-003-60A	SOIL	Rudisill Foundry (0' - 4')	(mg/kg)	0.60 U	(ug/kg)	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	NA	ND	(mg/kg)	4.8 J	77	0.16	18	18 J	0.10 U	0.30 UJ	0.30 U	80
8	PB-004	PB-004-02	SOIL	William Scrap Metal, Inc	(mg/kg)	0.58 U	(ug/kg)	3,800 UJ	3,800 UJ	3,800 UJ	3,800 UJ	3,800 UJ	3,800 UJ	28,000 J	NA	28,000 J	(mg/kg)	16	170	35	180	1200	7.8	0.28 U	12	88.9
9	PB-004	PB-004-04	SOIL	William Scrap Metal, Inc	(mg/kg)	0.63 U	(ug/kg)	18 UJ	18 UJ	18 UJ	18 UJ	18 UJ	18 UJ	120 J	24 J	144 J	(mg/kg)	8.1	130	1.4	62	78	0.11	0.28 U	0.28 U	94.4
10	PB-004	PB-004-60A	SOIL	William Scrap Metal, Inc. (0' - 4')	(mg/kg)	0.58 U	(ug/kg)	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	630 J	NA	630 J	(mg/kg)	45	210	10	180	18000	1.4 J	0.29 U	2.2	88.4
11	PB-004	PB-004-60C	SOIL	William Scrap Metal, Inc (12' - 16')	(mg/kg)	0.58 U	(ug/kg)	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	NA	ND	(mg/kg)	4.5	48	0.15	17	1.8	0.088 U	0.29 U	0.29 U	88.4
12	PB-005	PB-005-02	SOIL	US Pipe and Foundry	(mg/kg)	0.67 U	(ug/kg)	220 UJ	220 UJ	220 UJ	220 UJ	220 UJ	220 UJ	220 UJ	NA	ND	(mg/kg)	24	160	16	61	1800	0.32	0.33 U	7.3	75
13	PB-005	PB-005-04	SOIL	US Pipe and Foundry	(mg/kg)	0.71 U	(ug/kg)	240 UJ	240 UJ	240 UJ	240 UJ	240 UJ	240 UJ	1,400 J	NA	1,400 J	(mg/kg)	39	320	9.9	84	820	0.82	0.36 U	2.7	70.2
14	PB-006	PB-006-60	SOIL	Huron Valley Steel Corporation (0' - 4')	(mg/kg)	0.58 U	(ug/kg)	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	NA	ND	(mg/kg)	3.4	270	0.63	37	48	0.082 U	0.28 U	1.1	89.8 J
15	PB-006	PB-006-61	SOIL	Huron Valley Steel Corporation (0' - 4')	(mg/kg)	0.60 U	(ug/kg)	410 UJ	410 UJ	410 UJ	410 UJ	410 UJ	410 UJ	410 UJ	NA	ND	(mg/kg)	2.3	90	1.1	30	63	0.10 U	0.30 U	0.30 U	81.3 J
16	PB-006	PB-006A-02[illegible]	SOIL	Huron Valley Steel Corporation	(mg/kg)	0.65 U	(ug/kg)	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	NA	ND	(mg/kg)	5.3	100	1.4	33	32	0.12	0.27 U	0.58	[illegible]
17	PB-006	PB-006B-01A	SOIL	Huron Valley Steel Corporation	(mg/kg)	0.60 U	(ug/kg)	2,300 UJ	2,300 UJ	2,300 UJ	14,000 J	2,300 UJ	2,300 UJ	2,300 UJ	NA	14,000 J	(mg/kg)	11	570	7.9	49	530	0.97	0.33 U	0.89	[illegible]
18	PB-006	PB-006B-02[illegible]	SOIL	Huron Valley Steel Corporation	(mg/kg)	0.59 U	(ug/kg)	190 UJ	190 UJ	190 UJ	190 UJ	190 UJ	400 J	190 UJ	NA	400 J	(mg/kg)	7.1	57	0.88	28	68	0.088 U	0.29 U	0.29 U	85.1
19	PB-006	HV-SD-01	SOIL	Huron Valley Steel Corporation	(mg/kg)	0.58 U	(ug/kg)	200 UJ	200 UJ	200 UJ	200 UJ	480 J	200 UJ	200 UJ	NA	480 J	(mg/kg)	30	68	2.5	37	34	0.087 U	0.29 U	0.29 U	65.2
20	PB-006	HV-W-01	WATER	Huron Valley Steel Corporation	(mg/L)	0.010 U	(ug/L)	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	NA	ND	(mg/L)	0.0050 U	0.057	0.0020 U	0.0050 U	0.0030 U	0.001	0.0050 U	0.0050 U	NA
21	PB-006	HV-W-02	WATER	Huron Valley Steel Corporation	(mg/L)	0.010 U	(ug/L)	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	NA	ND	(mg/L)	0.0050 U	0.064	0.0020 U	0.0050 U	0.0030 U	0.0011	0.0050 U	0.0050 U	NA
22	PB-007	PB-007-04[illegible]	SOIL	United Defense	(mg/kg)	0.58 U	(ug/kg)	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	180 J	NA	160 J	(mg/kg)	11	110	0.39	17	41	0.096 U	0.29 U	0.29 U	88
23	PB-007	PB-007-06A	SOIL	United Defense	(mg/kg)	0.58 U	(ug/kg)	18 UJ	18 UJ	18 UJ	18 UJ	18 UJ	18 UJ	150 J	NA	150 J	(mg/kg)	16	140	2.2	88	71	0.092 U	0.28 U	0.28 U	90.8
24	PB-007	PB-007-06[illegible]	SOIL	United Defense	(mg/kg)	0.64 U	(ug/kg)	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	690 J	NA	690 J	(mg/kg)	4.1	70	0.97	32	16	0.089 U	0.27 U	0.27 U	93.2
25	PB-007	PB-007-07	SOIL	United Defense	(mg/kg)	0.51 U	(ug/kg)	350 UJ	350 UJ	350 UJ	350 UJ	350 UJ	350 UJ	350 UJ	NA	ND	(mg/kg)	7.7	130	13	150	53	0.088	0.25 U	0.25 U	98.2
26	PB-007	PB-007-60	SOIL	United Defense (0'-4')	(mg/kg)	0.59 U	(ug/kg)	190 UJ	190 UJ	190 UJ	190 UJ	190 UJ	190 UJ	190 UJ	210 J	210 J	(mg/kg)	9.9	110	0.32	15	29	0.090 U	0.29 U	0.29 U	88.2 J
27	PB-007	PB-007-61A	SOIL	United Defense (0'-4')	(mg/kg)	0.55 U	(ug/kg)	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	NA	ND	(mg/kg)	10	200	0.35	13	88	0.081 U	0.27 U	0.27 U	91.5
28	PB-007	UD-SD01	SOIL	United Defense	(mg/kg)	0.71 U	(ug/kg)	2,400 UJ	2,400 UJ	2,400 UJ	2,400 UJ	18,000 J	2,400 UJ	2,400 UJ	NA	18,000 J	(mg/kg)	14	470 J	12	110 J	1200	1.4	0.35 UJ	0.89	70.8
29	PB-007	UD-W01	WATER	United Defense	(mg/L)	0.010 U	(ug/L)	0.25 UJ	0.25 UJ	0.25 UJ	0.25 UJ	0.25 UJ	0.25 UJ	0.25 UJ	NA	ND	(mg/L)	0.0050 U	0.057	0.0020 U	0.0050 U	0.0030 U	0.0011	0.0050 U	0.0050 U	NA
30	PB-008	PB-008-60A	SOIL	Union Foundry (0'-4')	(mg/kg)	0.57 U	(ug/kg)	190 UJ	190 UJ	190 UJ	190 UJ	190 UJ	190 UJ	190 UJ	NA	ND	(mg/kg)	11	44	0.58	14	27	0.084 U	0.28 U	0.28 U	87.8
31	PB-008	PB-008-61A	SOIL	Union Foundry (0'-4')	(mg/kg)	0.60 U	(ug/kg)	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	NA	ND	(mg/kg)	9.8	68	0.50	17	21	0.087 U	0.29 U	0.29 U	85.7 J
32	PB-008	PB-008A07A	SOIL	Union Foundry	(mg/kg)	0.61 U	(ug/kg)	34 UJ	34 UJ	34 UJ	34 UJ	34 UJ	34 UJ	37 J	NA	37 J	(mg/kg)	8.1	43	2.8	77	34	0.095 U	0.28 U	0.28 U	87.3
33	PB-008	PB-008A08A	SOIL	Union Foundry	(mg/kg)	0.59 U	(ug/kg)	39 UJ	39 UJ	39 UJ	39 UJ	39 UJ	39 UJ	39 UJ	NA	ND	(mg/kg)	5.6	38	1.7	42	80	0.080 U	0.30 U	0.30 U	84.2
34	PB-008	[illegible]	SOIL	Union Foundry	(mg/kg)	0.60 U	(ug/kg)	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	NA	ND	(mg/kg)	8	43	0.48	21	5.2	0.10 U	0.30 U	0.30 U	83.3
35	PB-008	[illegible]	SOIL	Union Foundry	(mg/kg)	0.63 U	(ug/kg)	210 UJ	210 UJ	210 UJ	210 UJ	210 UJ	210 UJ	210 UJ	NA	ND	(mg/kg)	7.8	55	0.89	17	80	0.10 U	0.31 U	0.31 U	79.4
36	PB-008	PB-008C02	SOIL	Union Foundry	(mg/kg)	0.63 U	(ug/kg)	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ	NA	ND	(mg/kg)	1.2	16	0.13 U	6.8	5.4	0.10 U	0.32 U	0.32 U	79.2
37	PB-008	PB-008C07	SOIL	Union Foundry	(mg/kg)	0.75 U	(ug/kg)	2,500 UJ	2,500 UJ	2,800 UJ	2,800 UJ	2,800 UJ	18,000 J	2,800 UJ	NA	18,000 J	(mg/kg)	18	120	3.3	98	8.1	0.12 U	0.37 U	0.37 U	88.7
38	PB-009	PB-009-04	SOIL	Pollock-Collins Oil	(mg/kg)	0.68 U	(ug/kg)	2,300 UJ	2,300 UJ	2,300 UJ	2,300 UJ	2,300 UJ	2,300 UJ	2,300 UJ	NA	ND	(mg/kg)	3	78	0.84	8.8	31	0.25	0.34 U	0.34 U	72.8
39	PB-009	PB-009-10	SOIL	Pollock-Collins Oil	(mg/kg)	0.84 U	(ug/kg)	22,000 UJ	22,000 UJ	22,000 UJ	22,000 UJ	22,000 UJ	38,000 J	22,000 UJ	NA	38,000 J	(mg/kg)	5.8	88	0.63	24	41	0.38	0.32 U	0.32 U	77.9
40	PB-009	PB-009-60	SOIL	Pollock-Collins Oil (0'-4')	(mg/kg)	0.57 U	(ug/kg)	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	NA	ND	(mg/kg)	2	48	0.22	6.1	3.8	0.085 U	0.29 U	0.29 U	87.1
41	PB-010	PB-010-0[illegible]	SOIL	Shorty's Southern Yard	(mg/kg)	0.88 U	(ug/kg)	2,000 UJ	2,000 UJ	2,000 UJ	2,000 UJ	2,000 UJ	8,200 J	2,000 UJ	NA	8,200 J	(mg/kg)	20	280	72	320	480	1.4	0.29 U	0.81	85
42	PB-010	PB-010-07	SOIL	Shorty's Southern Yard	(mg/kg)	0.87 U	(ug/kg)	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	7,700 J	1,800 UJ	NA	7,700 J	(mg/kg)	18	240	18	370	400	1.8	0.29 U	0.9	87.1
43	PB-010	PB-010-0[illegible]	SOIL	Shorty's Southern Yard	(mg/kg)	0.63 U	(ug/kg)	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	6,800 J	1,800 UJ	1,800 UJ	NA	6,800 J	(mg/kg)	12	120	8.8	200	210	0.81	0.28 U	0.7	94.7
44	PB-010	PB-010-60	SOIL	Shorty's Southern Yard (0'-4')	(mg/kg)	0.59 U	(ug/kg)	38 UJ	38 UJ	38 UJ	38 UJ	38 UJ	280 J	38 UJ	NA	280 J	(mg/kg)	5.5	89	1.6	21	43	0.083 U	0.28 U	380	88.5
45	PB-010	[illegible]	SOIL	Shorty's Southern Yard	(mg/kg)	0.58 U	(ug/kg)	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	NA	ND	(mg/kg)	3.5	44	0.44	10	1.6	0.083 U	0.28 U	0.28 U	88
46	PB-010	[illegible]	SOIL	Shorty's Southern Yard	(mg/kg)	0.58 U	(ug/kg)	2,000 UJ	2,000 UJ	2,000 UJ	2,000 UJ	2,000 UJ	2,000 UJ	2,000 UJ	NA	ND	(mg/kg)	8.7	80	0.90	4.5	0.59 U	0.087 U	0.28 U	0.29 U	86.4
47	PB-011	[illegible]	SOIL	M & H Valve Company	(mg/kg)	0.80 U	(ug/kg)	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	NA	ND	(mg/kg)	3.4	120	0.50	18	24	0.087 U	0.28 U	0.28 U	88.9
48	PB-011	[illegible]	SOIL	M & H Valve Company	(mg/kg)	0.88 U	(ug/kg)	440 UJ	440 UJ	440 UJ	440 UJ	440 UJ	440 UJ	440 UJ	NA	ND	(mg/kg)	6.2	78	1.8	87	130	0.18	0.32 U	0.32 U	77.2
49	PB-011	[illegible]	SOIL	M & H Valve Company	(mg/kg)	0.85 U	(ug/kg)	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	NA	ND	(mg/kg)	2.8	30	1	11	28	0.082 U	0.28 U	0.28 U	90.5
50	PB-011	[illegible]	SOIL	M & H Valve Company	(mg/kg)	0.86 U	(ug/kg)	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	25 J	NA	25 J	(mg/kg)	1.8	21	0.25	11	30	0.083 U	0.28 U	0.28 U	88.2
51	PB-011	[illegible]	SOIL	M & H Valve Company	(mg/kg)	0.87 U	(ug/kg)	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	NA	ND	(mg/kg)	4.3	31	0.80	12	45	0.084 U	0.28 U	0.28 U	88.3
52	[illegible]	[illegible]	SOIL	M & H Valve Company	(mg/kg)	0.89 U	(ug/kg)	79 UJ	79 UJ	79 UJ	79 UJ	79 UJ	79 UJ	79 UJ	NA	ND	(mg/kg)	37	130	7.3	81	770	0.48	0.28 U	2.4	84.8
53	[illegible]	[illegible]	SOIL	Pryor Glass	(mg/kg)	0.69 U	(ug/kg)	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	NA	ND	(mg/kg)	1.8	63	0.38	18	13	0.088 U	0.28 U	0.29 U	84.8
54	[illegible]	[illegible]	SOIL	Pryor Glass	(mg/kg)	0.68 U	(ug/kg)	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	NA	ND	(mg/kg)	67	78	8	140	20	0.12	0.28 U	0.28 U	[illegible]
55	[illegible]	[illegible]	SOIL	Pryor Glass	(mg/kg)	0.89 U	(ug/kg)	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	NA	ND	(mg/kg)	1.9	85	0.30	17	10	0.088 U	0.29 U	0.29 U	[illegible]
56	[illegible]	[illegible]	SOIL	Pryor Glass	(mg/kg)	0.84 U	(ug/kg)	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	NA	ND	(mg/kg)	10	85	0.80	15	6.1	0.080 U	0.27 U	0.27 U	[illegible]
57	[illegible]	[illegible]	SOIL	MCT Anniston, Inc.	(mg/kg)	0.82 U	(ug/kg)	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	NA	ND	(mg/kg)	8.6	44	0.81	30	15	0.10 U	0.31 U	0.31 U	80.9
58	[illegible]	[illegible]	SOIL	MCT Anniston, Inc.	(mg/kg)	0.58 U	(ug/kg)	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	NA	ND	(mg/kg)	6.8	39	0.12 U	33 J	0.28 UJ	0.097 U	0.29 U	0.29 U	88
59	[illegible]	[illegible]	SOIL	MCT Anniston, Inc.	(mg/kg)	0.58 U	(ug/kg)	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	NA	ND	(mg/kg)	6.4	65	0.9	33	8.5	0.10 U	0.30 U	0.30 U	83.8
60	[illegible]	[illegible]	SOIL	MCT Anniston, Inc.	(mg/kg)	0.58 U	(ug/kg)	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	NA	ND	(mg/kg)	3.4	38	0.30	28	24	0.089 U	0.30 U	0.30 U	84.1
61	[illegible]	[illegible]	SOIL	MCT Anniston, Inc.	(mg/kg)	0.58 U	(ug/kg)	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	NA	200 J	(mg/kg)	2.8	81	0.72	20	48 J	0.13	0.29 U	0.29 U	88.2
62	[illegible]	[illegible]	SOIL	MCT Anniston, Inc.	(mg/kg)	0.62 U	(ug/kg)	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ	160 J	21 UJ	NA	160 J	(mg/kg)	3.8	100	2	54	80	0.21	0.31 U	0.31 U	78.9
63	[illegible]	[illegible]	SOIL	MCT Anniston, Inc.	(mg/kg)	0.58 U	(ug/kg)	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	4,000 J	880 J	4,880 J	(mg/kg)	8.8	870	8.8	320	8.4	0.083 U	0.28 U	1.6	89.3 J
64	[illegible]	[illegible]	SOIL	MCT Anniston, Inc.	(mg/kg)	0.58 U	(ug/kg)	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	NA	ND	(mg/kg)	4.6	79	0.64	27	28	0.082 U	0.28 U	0.28 U	90.3 J
65	[illegible]	[illegible]	SOIL	MCT Anniston, Inc.	(mg/kg)	0.58 U	(ug/kg)	2,000 UJ	2,000 UJ	2,000 UJ	2,000 UJ	5,500 J	2,000 UJ	2,000 UJ	NA	5,500 J	(mg/kg)	4	87	2.8	180	4.8	0.088 U	0.28 U	0.35	88.4 J
66	[illegible]	[illegible]	SOIL	MCT Anniston, Inc.	(mg/kg)	0.58 U	(ug/kg)	20,000 UJ	20,000 UJ	20,000 UJ	20,000 UJ	20,000 UJ	20,000 UJ	20,000 UJ	NA	ND	(mg/kg)	5.2 J	44	1.8	140 J	12 J	0.089 U	0.29 U	0.29 U	85.9 J
67	[illegible]	[illegible]	SOIL	MCT Anniston, Inc.	(mg/kg)	0.65 U	(ug/kg)	2,200 UJ	2,200 UJ	2,200 UJ	2,200 UJ	2,200 UJ	2,200 UJ	2,200 UJ	NA	ND	(mg/kg)	4.8	80	1.4	150	4.2	0.11 U	0.32 U	0.32 U	77.0 J
68	[illegible]	[illegible]	SOIL	MCT Anniston, Inc. (0'-4')	(mg/kg)	0.57 U	(ug/kg)	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	2,800 J	1,800 UJ	1,800 UJ	NA	2,800 J	(mg/kg)	5.4	70	2.3	140	28	0.086 U	0.29 U	0.29 U	87.1 J
69	[illegible]	[illegible]	WATER	MCT Anniston, Inc.	(mg/L)	0.010 U	(ug/L)	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	NA	ND	(mg/L)	0.0050 U	0.56	0.0020 U	0.0050 U	0.0030 U	0.0006	0.0050 U	0.0050 U	NA
70	[illegible]	[illegible]	SOIL	MCT Anniston, Inc.	(mg/kg)	0.84 U	(ug/kg)	2,800 UJ	2,800 UJ	2,800 UJ	2,800 UJ	11,000 J	2,800 UJ	2,800 UJ	NA	11,000 J	(mg/kg)	7.6	180	9.6	180	1200	1.2	0.42 U	0.72	88.9
71	[illegible]	[illegible]	SOIL	MCT Anniston, Inc.	(mg/kg)	0.81 U	(ug/kg)	120,000 UJ	120,000 UJ	120,000 UJ	120,000 UJ	120,000 UJ	120,000 UJ	120,000 UJ	NA	ND	(mg/kg)	2.7	18 U	0.16	0.38	77	0.10 U	0.62	0.30 U	82.2
72	[illegible]	[illegible]	WATER	MCT Anniston, Inc.	(mg/L)	0.010 U	(ug/L)	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	0.26 UJ	NA	ND	(mg/L)	0.0050 U	0.025	0.0020 U	0.0050 U	0.0030 U	0.0015	0.0050 U	0.0050 U	NA

No	SAMP_[illegible]	SAMP_ID	SAMP_TYPE	SAMP_Descript	CH_Unit	CH_LabValue	PCB_Unit	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1268	Total Aroclor	Metal_UNIT	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	% Solids
73	PB-014	PB-014-01	SOIL	[illegible]ton Concrete Company	(mg/kg)	0.60 U	(ug/kg)	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ	22 J	NA	22 J	(mg/kg)	2	23	0.56	10	62	0.10 U	0.31 U	0.31 U	79.5
74	PB-014	PB-014-07	SOIL	[illegible]ton Concrete Company	(mg/kg)	0.60 U	(ug/kg)	220 UJ	220 UJ	220 UJ	220 UJ	220 UJ	220 UJ	220 UJ	NA	ND	(mg/kg)	10	98	1.4	37	79	0.15	0.33 U	0.33 U	76.1
75	PB-014	PB-014-40	SOIL	[illegible]ton Concrete Company	(mg/kg)	0.56 U	(ug/kg)	37 UJ	37 UJ	37 UJ	37 UJ	37 UJ	37 UJ	150 J	NA	150 J	(mg/kg)	27	200	6.1	110	600	0.88	0.28 U	0.28 U	90.3
76	PB-014	PB-014-60	SOIL	[illegible]ton Concrete Company	(mg/kg)	0.62 U	(ug/kg)	2,000 UJ	2,000 UJ	2,000 UJ	2,000 UJ	2,000 UJ	2,000 UJ	2,000 UJ	NA	ND	(mg/kg)	21	88	2.2	28	67	0.10 U	0.31 U	0.31 U	80.3
77	PB-015	PB-015-02	SOIL	Chalkline Metal	(mg/kg)	0.55 U	(ug/kg)	18 UJ	18 UJ	18 UJ	18 UJ	18 UJ	18 UJ	18 UJ	NA	ND	(mg/kg)	45	170	0.84	12	88	18	0.27 U	0.27 U	91.4
78	PB-015	PB-015-08	SOIL	Chalkline Metal	(mg/kg)	0.54 U	(ug/kg)	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	NA	ND	(mg/kg)	2.9	1600	3.9	28	310	0.088 U	0.27 U	0.27 U	92.8
79	PB-015	PB-015-60A	SOIL	Chalkline Metal	(mg/kg)	0.55 U	(ug/kg)	3,700 UJ	3,700 UJ	3,700 UJ	3,700 UJ	3,700 UJ	3,700 UJ	3,700 UJ	NA	ND	(mg/kg)	8.8	370	0.94	13	29	0.092 U	0.28 U	0.28 U	90.5 J
80	PB-015	PB-015-61A	SOIL	Chalkline Metal (0'-4')	(mg/kg)	0.60 U	(ug/kg)	4,000 UJ	4,000 UJ	4,000 UJ	4,000 UJ	4,000 UJ	4,000 UJ	4,000 UJ	NA	ND	(mg/kg)	20	380	6.8	16	32	0.099 U	1.7	0.30 U	83.6 J
81	PB-017	PB-017-02	SOIL	Alabama Pipe & Foundry	(mg/kg)	0.69 U	(ug/kg)	23 UJ	23 UJ	23 UJ	23 UJ	23 UJ	23 UJ	23 UJ	NA	ND	(mg/kg)	2.7	38	0.44	13	20	0.33	0.34 U	0.34 U	72.7
82	PB-017	PB-017-08	SOIL	Alabama Pipe & Foundry	(mg/kg)	0.62 U	(ug/kg)	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ	21 UJ	NA	ND	(mg/kg)	5.5	75	0.98	31	8.8	0.10 U	0.31 U	0.31 U	80.8
83	PB-017	PB-017-41	SOIL	Alabama Pipe & Foundry	(mg/kg)	0.58 U	(ug/kg)	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	NA	ND	(mg/kg)	18	50	0.98	24	38	0.097 U	0.29 U	0.29 U	76.3
84	PB-017	PB-017-60	SOIL	Alabama Pipe & Foundry	(mg/kg)	0.54 U	(ug/kg)	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	NA	ND	(mg/kg)	53	58	2.1	15	15	0.090 U	0.27 U	0.27 U	91.9
85	PB-019	PB-019-02	SOIL	Anchor Metals	(mg/kg)	0.58 U	(ug/kg)	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	370 J	200 J	570 J	(mg/kg)	7.2	200	2.1	38	220	0.13	0.29 U	0.29 U	88
86	PB-019	PB-019-06	SOIL	Anchor Metals	(mg/kg)	0.55 U	(ug/kg)	190 UJ	190 UJ	190 UJ	190 UJ	190 UJ	190 UJ	190 J	130 J	320 J	(mg/kg)	24	110	3.5	39	270	0.089	0.27 U	0.27 U	91.2
87	PB-019	PB-019-10	SOIL	Anchor Metals	(mg/kg)	0.59 U	(ug/kg)	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	280 J	230 J	510 J	(mg/kg)	18	150	2.3	56	120	0.16	0.30 U	0.30 U	84.1
88	PB-019	PB-019-60	SOIL	Anchor Metals	(mg/kg)	0.56 U	(ug/kg)	1,900 UJ	1,900 UJ	1,900 UJ	1,900 UJ	1,900 UJ	1,900 UJ	1,900 UJ	NA	ND	(mg/kg)	11	180	2.3	28	140	0.093 U	0.28 U	0.46	88.9
89	PB-020	PB-020-01	SOIL	Central Foundry	(mg/kg)	0.57 U	(ug/kg)	190 UJ	190 UJ	190 UJ	190 UJ	190 UJ	190 UJ	360 J	380 J	740 J	(mg/kg)	4.4	110	0.58	17	38	0.16	0.28 U	0.28 U	87.5
90	PB-020	PB-020-02	SOIL	Central Foundry	(mg/kg)	0.56 U	(ug/kg)	190 UJ	190 UJ	190 UJ	190 UJ	190 UJ	190 UJ	310 J	300 J	610 J	(mg/kg)	5	87	0.66	10	41	0.26	0.28 U	0.28 U	88.9
91	PB-020	PB-020-05	SOIL	Central Foundry	(mg/kg)	0.59 U	(ug/kg)	400 UJ	400 UJ	400 UJ	400 UJ	400 UJ	400 UJ	2,200 J	700 J	2,900 J	(mg/kg)	13	120	0.67	11	47	0.51	0.29 U	0.29 U	84.8
92	PB-020	PB-020-07	SOIL	Central Foundry	(mg/kg)	0.58 U	(ug/kg)	390 UJ	390 UJ	390 UJ	390 UJ	390 UJ	390 UJ	2,100 J	680 J	2,780 J	(mg/kg)	7.7	120	1.2	21	65	0.49	0.29 U	0.29 U	86.9
93	PB-020	PB-020-60	SOIL	Central Foundry	(mg/kg)	0.65 U	(ug/kg)	22 UJ	22 UJ	22 UJ	22 UJ	22 UJ	22 UJ	22 UJ	NA	ND	(mg/kg)	4.1	50	0.46	30	19	0.11 U	0.32 U	0.32 U	76.8
94	PB-021	PB-021-02	SOIL	Central Foundry	(mg/kg)	0.57 U	(ug/kg)	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	170 J	19 UJ	NA	170 J	(mg/kg)	4.1	140	0.61	12	24	0.13	0.28 U	0.28 U	87.5
95	PB-021	PB-021-04	SOIL	Central Foundry	(mg/kg)	0.57 U	(ug/kg)	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	NA	ND	(mg/kg)	21	48	1.4	10	22	0.21	0.28 U	0.28 U	87.7
96	PB-021	PB-021-60	SOIL	Central Foundry	(mg/kg)	0.52 U	(ug/kg)	34 UJ	34 UJ	34 UJ	34 UJ	34 UJ	34 UJ	34 UJ	NA	ND	(mg/kg)	7.8 J	120 J	2.4	18 J	65 J	0.086 U	0.26 UJ	0.28 U	96.9
97	PB-021	PB-021B-01	SOIL	Central Foundry	(mg/kg)	0.60 U	(ug/kg)	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	190 J	NA	190 J	(mg/kg)	2.8	1700	2.3	17	230	0.82	0.30 U	0.30 U	82.7
98	PB-021	PB-021B-03	SOIL	Central Foundry	(mg/kg)	0.68 U	(ug/kg)	45 UJ	45 UJ	45 UJ	45 UJ	45 UJ	45 UJ	400 J	NA	400 J	(mg/kg)	4.8	180	4	12	110	0.88	0.33 U	0.33 U	75.1
99	PB-023	PB-023-01	SOIL	L & N Station	(mg/kg)	0.58 U	(ug/kg)	39 UJ	39 UJ	39 UJ	39 UJ	39 UJ	39 UJ	280 J	NA	280 J	(mg/kg)	15	170	1.1	13	100	0.19	0.29 U	0.29 U	86.3
100	PB-023	PB-023-02	SOIL	L & N Station	(mg/kg)	0.54 U	(ug/kg)	18 UJ	18 UJ	18 UJ	18 UJ	18 UJ	18 UJ	29 J	NA	29 J	(mg/kg)	26	130	1.4	52	68	0.84	0.27 U	0.27 U	93
101	PB-024	PB-024-07	SOIL	Donoho Foundry	(mg/kg)	0.60 U	(ug/kg)	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	20 UJ	73 J	54 J	127 J	(mg/kg)	12	270	4.6	29	44	0.12	0.30 U	0.30 U	83.7
102	PB-024	PB-024-08	SOIL	Donoho Foundry	(mg/kg)	0.54 U	(ug/kg)	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	NA	ND	(mg/kg)	11	280	3.6	18	130	0.31	0.27 U	0.27 U	92.9
103	PB-024	PB-024-11	SOIL	Donoho Foundry	(mg/kg)	0.55 U	(ug/kg)	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	400 J	480 J	880 J	(mg/kg)	12	170	1.2	7.4	67	0.092 U	0.28 U	0.28 U	90.7
104	PB-024	PB-024-60	SOIL	Donoho Foundry (0'-4')	(mg/kg)	0.68 U	(ug/kg)	230 UJ	230 UJ	230 UJ	230 UJ	230 UJ	230 UJ	220 UJ	NA	ND	(mg/kg)	9.1	180	3	29	88	0.11 U	0.34 U	0.34 U	74
105	PB-025	PB-025-01	SOIL	SouthEast Refractories	(mg/kg)	0.67 U	(ug/kg)	23 UJ	23 UJ	23 UJ	23 UJ	23 UJ	23 UJ	23 UJ	NA	ND	(mg/kg)	1.2	38	0.27	7.7	27	0.12	0.34 U	0.34 U	74.6
106	PB-025	PB-025-03	SOIL	SouthEast Refractories	(mg/kg)	0.61 U	(ug/kg)	210 UJ	210 UJ	210 UJ	210 UJ	210 UJ	210 UJ	210 UJ	NA	ND	(mg/kg)	14	220	3.1	65	160	0.10 U	0.30 U	0.74	82.1
107	PB-025	PB-025-04	SOIL	SouthEast Refractories	(mg/kg)	0.62 U	(ug/kg)	2,100 UJ	2,100 UJ	2,100 UJ	2,100 UJ	2,100 UJ	2,100 UJ	2,100 UJ	NA	ND	(mg/kg)	8.8	280	2.6	78	140	0.10 U	0.31 U	1.2	80.9
108	PB-025	PB-025-[illegible]	SOIL	SouthEast Refractories	(mg/kg)	0.58 U	(ug/kg)	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	NA	ND	(mg/kg)	2.7	43	0.77	19	50	0.093 U	0.28 U	0.28 U	86.4
109	PB-025	PB-025-60	SOIL	SouthEast Refractories (0'-4')	(mg/kg)	0.54 U	(ug/kg)	18 UJ	18 UJ	18 UJ	18 UJ	18 UJ	18 UJ	18 UJ	NA	ND	(mg/kg)	3.6	680	1.8	200	21	0.090 U	0.27 U	2.6	92

No	SAMP_ID2	SAMP_ID	SAMP_TYPE	SAMP_Descript	OIL_Unit	OIL_LabValue	PCB_Unit	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1268	Total Aroclor	Metal_UNIT	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	% Solids
110	PB-AP-	[illegible]	SOIL	AL Power	(mg/kg)	0.57 U	(ug/kg)	38,000 UJ	38,000 UJ	38,000 UJ	38,000 UJ	38,000 UJ	38,000 UJ	120,000 J	NA	120,000 J	(mg/kg)	6.1	75	0.72	11	33	0.24	0.28 U	0.28 U	87.5 J
111	PB-AP-	PB-AP-[illegible]	SOIL	AL Power	(mg/kg)	0.57 U	(ug/kg)	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	7,200 J	3,400 J	10,600 J	(mg/kg)	7.6	70	0.62	13	37	0.14	0.28 U	0.28 U	87.9 J
112	PB-AP-	[illegible]	SOIL	AL Power	(mg/kg)	0.58 U	(ug/kg)	38,000 UJ	38,000 UJ	38,000 UJ	38,000 UJ	38,000 UJ	38,000 UJ	230,000 J	90,000 J	320,000 J	(mg/kg)	8.4	88	0.63	16	81	0.33	0.29 U	0.29 U	85.8 J
113	PB-AP-	[illegible]-17	SOIL	AL Power	(mg/kg)	5.0 U	(ug/kg)	170,000 UJ	170,000 UJ	170,000 UJ	170,000 UJ	170,000 UJ	170,000 UJ	310,000 J	180,000 J	490,000 J	(mg/kg)	84	410	21	330	140	1.4	2.5 U	2.5 U	9.80 J
114	PB-AP-	[illegible]-21	SOIL	AL Power	(mg/kg)	0.54 U	(ug/kg)	180,000 UJ	180,000 UJ	180,000 UJ	180,000 UJ	180,000 UJ	180,000 UJ	180,000 UJ	NA	ND	(mg/kg)	4.7	100	1.2	7.8	27	1.2	0.27 U	0.27 U	93.3 J
115	PB-AP-	[illegible]	SOIL	AL Power	(mg/kg)	0.66 U	(ug/kg)	2,200 UJ	2,200 UJ	2,200 UJ	2,200 UJ	2,200 UJ	2,200 UJ	2,200 UJ	NA	ND	(mg/kg)	5.6	290	1.4	28	84	0.11 U	0.33 U	0.33 U	75.1 J
116	PB-AP-	PB-AP-41	SOIL	AL Power	(mg/kg)	0.57 U	(ug/kg)	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	NA	ND	(mg/kg)	4.5	81	0.44	17	7.3	0.095 U	0.29 U	0.29 U	87.0 J
117	PB-AP-	[illegible]	SOIL	AL Power	(mg/kg)	0.66 U	(ug/kg)	2,200 UJ	2,200 UJ	2,200 UJ	2,200 UJ	2,200 UJ	2,200 UJ	16,000 J	5,300 J	21,300 J	(mg/kg)	7.7	120	1.2	14	21	0.29	0.33 U	0.33 U	75.4 J
118	PB-ASP	PB-ASP-01	SOIL	Anniston Soil & Pipe	(mg/kg)	0.57 U	(ug/kg)	78 UJ	78 UJ	78 UJ	78 UJ	78 UJ	78 UJ	220 J	200 J	420 J	(mg/kg)	6	55	0.87	20	410	0.095 U	0.29 U	0.29 U	87.4 J
119	PB-ASP	PB-ASP-[illegible]	SOIL	Anniston Soil & Pipe	(mg/kg)	0.72 U	(ug/kg)	2,400 UJ	2,400 UJ	2,400 UJ	2,400 UJ	2,400 UJ	2,400 UJ	2,400 UJ	NA	ND	(mg/kg)	6.3	83	1.5	30	160	0.12 U	0.38 U	0.38 U	[illegible] J
120	PB-ASP	PB-ASP-[illegible]	SOIL	Anniston Soil & Pipe	(mg/kg)	0.62 U	(ug/kg)	21,000 UJ	21,000 UJ	21,000 UJ	21,000 UJ	21,000 UJ	21,000 UJ	37,000 J	56,000 J	93,000 J	(mg/kg)	4.9	110	1.8	21	100	0.14	0.31 U	0.31 U	[illegible]9 J
121	PB-ASP	PB-ASP-11	SOIL	Anniston Soil & Pipe	(mg/kg)	0.56 U	(ug/kg)	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	1,800 UJ	3,400 J	NA	3,400 J	(mg/kg)	41	160	3.4	45	150	0.34	0.28 U	0.28 U	88.6 J
122	PB-ASP	PB-ASP-16	SOIL	Anniston Soil & Pipe	(mg/kg)	0.63 U	(ug/kg)	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	700 J	460 J	1,160 J	(mg/kg)	19	110	2.2	22	110	0.17	0.28 U	0.28 U	94.3 J
123	PB-MK-	PB-MK-01	SOIL	McKinney Residence	(mg/kg)	0.60 U	(ug/kg)	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	NA	ND	(mg/kg)	4.6	56	0.66	7.4	170	0.10 U	0.30 U	0.30 U	83.3 J
124	PB-RR-	PB-RR-[illegible]	SOIL	Railroad	(mg/kg)	0.63 U	(ug/kg)	2,100 UJ	2,100 UJ	2,100 UJ	2,100 UJ	2,100 UJ	2,100 UJ	4,200 J	NA	4,200 J	(mg/kg)	4.6	78	0.54	20	19	0.10 U	0.31 U	0.31 U	79.6 J
125	PB-RR-	PB-RR-12	SOIL	Railroad	(mg/kg)	0.80 U	(ug/kg)	310 UJ	310 UJ	310 UJ	310 UJ	310 UJ	310 UJ	1,700 J	1,400 J	3,100 J	(mg/kg)	23	100	1.5	28	140	0.47	0.45 U	0.45 U	55.2 J
126	PB-RR-	PB-RR-15	SOIL	Railroad	(mg/kg)	1.1	(ug/kg)	3,000 UJ	3,000 UJ	3,000 UJ	3,000 UJ	3,000 UJ	3,000 UJ	3,000 UJ	NA	ND	(mg/kg)	120	1500	66	220	6200	8.2	0.45 U	3.8	55.8 J
127	PB-RR-	PB-RR-30	SOIL	Railroad	(mg/kg)	0.68 U	(ug/kg)	380 UJ	380 UJ	380 UJ	380 UJ	380 UJ	380 UJ	1,600 J	NA	1,600 J	(mg/kg)	88	640	9.3	42	6000	0.61	0.29 U	4.2	85.9 J
128	PB-RR-	PB-RR-07	SOIL	Railroad	(mg/kg)	0.68 U	(ug/kg)	200,000 UJ	200,000 UJ	200,000 UJ	200,000 UJ	200,000 UJ	780,000 J	200,000 UJ	2,800,000 J	3,650,000 J	(mg/kg)	13	200	0.66	19	60	0.32	0.29 U	0.29 U	85.2 J
129	PB-RR-	PB-RR-40	SOIL	Railroad	(mg/kg)	0.59 U	(ug/kg)	2,000 UJ	2,000 UJ	2,000 UJ	2,000 UJ	2,300 J	2,000 UJ	2,000 UJ	NA	2,300 J	(mg/kg)	14	120	0.66	13	77	0.53	0.29 U	0.29 U	85.2 J
130	PB-RR-	[illegible]	SOIL	Railroad	(mg/kg)	1.0 U	(ug/kg)	210 UJ	210 UJ	210 UJ	210 UJ	210 UJ	210 UJ	210 UJ	NA	ND	(mg/kg)	8	94	0.28	13	35	5.8	0.51 UJ	0.51 U	49.0 J
131	PB-RR-	PB-RR[illegible]1-01	SOIL	Railroad	(mg/kg)	0.59 U	(ug/kg)	1,900 UJ	1,900 UJ	1,900 UJ	1,900 UJ	1,900 UJ	1,900 UJ	1,900 UJ	NA	ND	(mg/kg)	120	160	1.4	20	83	0.097 U	0.29 U	0.29 U	85.3 J
132	PB-RR-	PB-RR[illegible]100	SOIL	Railroad	(mg/kg)	0.77 U	(ug/kg)	2,600 UJ	2,600 UJ	2,600 UJ	2,600 UJ	2,600 UJ	2,600 UJ	2,600 UJ	NA	ND	(mg/kg)	4.3 J	170 J	0.77 J	13 J	120 J	0.17	0.38 UJ	0.38 UJ	64.9 J
133	PB-RR-	PB-RR[illegible]	SOIL	Railroad	(mg/kg)	0.63 U	(ug/kg)	2,100 UJ	2,100 UJ	2,100 UJ	2,100 UJ	16,000 J	2,100 UJ	2,100 UJ	NA	15,000 J	(mg/kg)	18	260	11	140	420	0.66	0.32 U	0.67	78.8 J
134	PB-RR-	[illegible]	SOIL	Railroad	(mg/kg)	0.67 U	(ug/kg)	23,000 UJ	23,000 UJ	23,000 UJ	23,000 UJ	23,000 UJ	23,000 UJ	63,000 J	NA	53,000 J	(mg/kg)	12	140	1.2	25	170	1.4	0.34 U	0.34 U	74.1 J
135	[illegible]	[illegible]	SOIL	Railroad	(mg/kg)	0.66 U	(ug/kg)	2,800 UJ	2,800 UJ	2,800 UJ	2,800 UJ	2,800 UJ	13,000 J	2,800 UJ	NA	13,000 J	(mg/kg)	6	120	0.94	29	60	0.18	0.43 U	0.43 U	57.8 J
136	[illegible]	[illegible]	SOIL	Railroad	(mg/kg)	0.66 U	(ug/kg)	2,200 UJ	2,200 UJ	2,200 UJ	2,200 UJ	2,200 UJ	6,500 J	2,200 UJ	NA	6,500 J	(mg/kg)	4.6	78	0.52	18	50	0.3	0.33 U	0.33 U	75.6 J
137	PB-SPR	[illegible]	WATER	Spring 2 @ Jefferson St.	(mg/L)	0.010 U	(ug/L)	0.28 UJ	0.28 UJ	0.28 UJ	0.28 UJ	0.28 UJ	0.28 UJ	0.28 UJ	NA	ND	(mg/L)	0.0050 U	0.029	0.0020 U	0.0050 U	0.0030 U	0.00068	0.0050 U	0.0050 U	NA
138	PB-UFL	[illegible]	SOIL	Union Found[illegible] andfill/Reeves Road Landfill	(mg/kg)	0.58 U	(ug/kg)	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	180 UJ	NA	ND	(mg/kg)	11	20	0.6	38	6	0.093 U	0.28 U	0.28 U	88.9 J
139	PB-UFL	[illegible]	SOIL	Union Foundry Lan[illegible] Reeves Road Landfill (7-4)	(mg/kg)	0.68 U	(ug/kg)	20,000 UJ	20,000 UJ	20,000 UJ	20,000 UJ	20,000 UJ	20,000 UJ	21,000 J	NA	21,000 J	(mg/kg)	7.3	22	0.47	15	10	0.086 U	0.29 U	0.29 U	86.7 J
140	PB-UFL	[illegible]	SOIL	Union Found[illegible] andfill/Reeves Road Landfill	(mg/kg)	0.65 U	(ug/kg)	220 UJ	220 UJ	220 UJ	220 UJ	220 UJ	220 UJ	220 UJ	NA	ND	(mg/kg)	11	28	1.8	18	61	0.11 U	0.32 U	0.32 U	77.3 J
141	[illegible]	[illegible]	SOIL	Zone B	(mg/kg)	0.64 U	(ug/kg)	2,200 UJ	2,200 UJ	2,200 UJ	2,200 UJ	2,200 UJ	4,200 J	2,200 UJ	4,000 J	8,200 J	(mg/kg)	10	110	1	15	130	0.34	0.32 U	0.32 U	77.7 J
142	[illegible]	[illegible]	SOIL	Zone B	(mg/kg)	0.62 U	(ug/kg)	2,100 UJ	2,100 UJ	2,100 UJ	2,100 UJ	2,100 UJ	2,100 UJ	2,100 UJ	NA	ND	(mg/kg)	3.6	100	0.6	14	0.31 U	0.10 U	0.31 U	0.31 U	80.9 J
143	[illegible]	[illegible]	SOIL	Zone B	(mg/kg)	0.68 U	(ug/kg)	220 UJ	220 UJ	220 UJ	220 UJ	220 UJ	220 UJ	2,400 J	5,900 J	8,300 J	(mg/kg)	7.6	180	1	21	100	0.28	0.33 U	0.33 U	76.1 J
144	[illegible]	[illegible]	SOIL	Zone B	(mg/kg)	0.62 U	(ug/kg)	210 UJ	210 UJ	210 UJ	210 UJ	210 UJ	210 UJ	510 J	220 J	730 J	(mg/kg)	4.4	77	0.68	15	91	0.14	0.31 U	0.31 U	80.7 J
145	[illegible]	[illegible]	SOIL	Zone D	(mg/kg)	0.60 U	(ug/kg)	2,000 UJ	2,000 UJ	2,000 UJ	2,000 UJ	2,000 UJ	2,800 J	2,000 UJ	NA	2,800 J	(mg/kg)	5.2	120	1.2	31	170	0.2	0.30 U	0.30 U	84.6 J
146	PB-ZD-[illegible]	PB-ZD-[illegible]	SOIL	Zone D	(mg/kg)	0.68 U	(ug/kg)	2,300 UJ	2,300 UJ	2,300 UJ	2,300 UJ	2,300 UJ	2,300 UJ	2,800 J	NA	2,800 J	(mg/kg)	9.9	180	3.3	120	580	0.81	0.34 U	0.34 U	74.0 J
147	PB-ZD-10	PB-ZD-10	SOIL	Zone D	(mg/kg)	0.60 U	(ug/kg)	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	200 UJ	1,000 J	580 J	1,580 J	(mg/kg)	4.8	150	1.4	28	140	0.28	0.30 U	0.30 U	83.3 J
148	PB-ZD-14	PB-ZD-14	SOIL	Zone D	(mg/kg)	0.60 U	(ug/kg)	2,000 UJ	2,000 UJ	2,000 UJ	2,000 UJ	2,000 UJ	2,000 UJ	2,000 UJ	NA	ND	(mg/kg)	5.6	120	1.6	30	290	0.19	0.30 U	0.30 U	83.1 J

Phase 2: Commercial/ Industrial Sampling Event
START-Field Screen -PCB

Sample ID	Type	Adjusted Value ppm	Location Description	COMMENT1
FSB-001	COM	1.97		
HV-SCR-01	COM	3.80		
PB-002-01	COM	4.66	Defense Research	
PB-002-02	COM	5.24	Defense Research	
PB-002-03	COM	7.54	Defense Research	
PB-002-04	COM	8.80	Defense Research	
PB-002-05	COM	2.05	Defense Research	
PB-002-06	COM	7.52	Defense Research	
PB-002-07	COM	2.39	Defense Research	
PB-002-08	COM	2.14	Defense Research	
PB-002-09	COM	36.27	Defense Research	
PB-003-01	COM	2.73	Dudsill Foundry	
PB-003-02	COM	1.56	Dudsill Foundry	
PB-003-03	COM	1.39	Dudsill Foundry	
PB-003-04	COM	3.17	Dudsill Foundry	
PB-003-05	COM	2.07	Dudsill Foundry	
PB-003-06	COM	4.68	Dudsill Foundry	
PB-003-07	COM	3.10	Dudsill Foundry	
PB-003-08	COM	3.29	Dudsill Foundry	
PB-003-09	COM	3.09	Dudsill Foundry	
PB-003-60A	COM	4.74	Dudsill Foundry	
PB-004-01	COM	3.50	William Scrap	
PB-004-02	COM	9.80	William Scrap	
PB-004-03	COM	3.43	William Scrap	
PB-004-04	COM	1.42	William Scrap	
PB-004-05	COM	2.96	William Scrap	
PB-004-06	COM	3.23	William Scrap	
PB-004-60A	COM	4.86	William Scrap	
PB-004-60D	COM	2.63	Wm Scrap	
PB-005-01	COM	2.10	US Pipe and Foundry	
PB-005-02	COM	1.30	US Pipe and Foundry	
PB-005-03	COM	2.27	US Pipe and Foundry	
PB-005-04	COM	3.65	US Pipe and Foundry	
PB-005-05	COM	2.49	US Pipe and Foundry	
PB-005-06	COM	1.46	US Pipe and Foundry	
PB-005-43	COM	1.63	US Pipe and Foundry	
PB-006-60	COM	2.21	Anniston Foundry (Huron V	
PB-006-61	COM	1.89	Anniston Foundry (Huron V	
PB-006A-01A	COM	3.34	Anniston Foundry (Huron V	
PB-006A-01B	COM	3.11	Anniston Foundry (Huron V	
PB-006A-02A	COM	3.93	Anniston Foundry (Huron V	
PB-006A-02B	COM	3.06	Anniston Foundry (Huron V	
PB-006A-03A	COM	3.10	Anniston Foundry (Huron V	
PB-006A-03B	COM	8.30	Anniston Foundry (Huron V	
PB-006A-04A	COM	3.68	Anniston Foundry (Huron V	
PB-006B-01A	COM	8.70	Anniston Foundry (Huron V	
PB-006B-01B	COM	5.21	Anniston Foundry (Huron V	
PB-006B-02A	COM	6.04	Anniston Foundry (Huron V	
PB-006B-02B	COM	8.50	Anniston Foundry (Huron V	

Phase 2: Commercial / Industrial Sampling Event
START-Field Screen -PCB

Sample ID	Type	Adjusted Value ppm	Location Description	COMMENT1
PB-007-01A	COM	1.53	United Defense	
PB-007-01B	COM	2.66	United Defense	
PB-007-02	COM	4.42	United Defense	
PB-007-03A	COM	4.54	United Defense	
PB-007-03B	COM	1.63	United Defense	
PB-007-04A	COM	4.82	United Defense	
PB-007-04B	COM	1.12	United Defense	
PB-007-05A	COM	3.61	United Defense	
PB-007-06A	COM	4.24	United Defense	
PB-007-06B	COM	23.31	United Defense	
PB-007-07	COM	43.20	United Defense	
PB-007-08	COM	3.48	United Defense	
PB-007-60	COM	3.89	United Defense	
PB-007-61A	COM	17.30	United Defense	
PB-008-60A	COM	15.30	Union Foundry	
PB-008-61A	COM	1.18	Union Foundry	
PB-008A-01	COM	8.40	Union Foundry	
PB-008A-02	COM	2.21	Union Foundry	
PB-008A-03A	COM	2.27	Union Foundry	
PB-008A-04	COM	2.57	Union Foundry	
PB-008A-05A	COM	3.76	Union Foundry	
PB-008A-05B	COM	2.24	Union Foundry	
PB-008A-06A	COM	7.18	Union Foundry	
PB-008A-07A	COM	1.96	Union Foundry	
PB-008A-08A	COM	1.78	Union Foundry	
PB-008A-09A	COM	2.98	Union Foundry	
PB-008A-10	COM	3.16	Union Foundry	
PB-008B-01	COM	7.34	Union Foundry	
PB-008B-02	COM	4.09	Union Foundry	
PB-008B-03	COM	3.51	Union Foundry	
PB-008B-04	COM	3.94	Union Foundry	
PB-008B-05	COM	7.72	Union Foundry	
PB-008B-06	COM	8.20	Union Foundry	
PB-008B-07	COM	16.20	Union Foundry	
PB-008B-08	COM	14.90	Union Foundry	
PB-008B-09	COM	23.31	Union Foundry	
PB-008B-10	COM	20.70	Union Foundry	
PB-008B-11	COM	14.20	Union Foundry	
PB-008B-12	COM	10.30	Union Foundry	
PB-008B-13	COM	3.50	Union Foundry	
PB-008B-14	COM	3.38	Union Foundry	
PB-008B-15	COM	3.66	Union Foundry	
PB-008B-16	COM	2.53	Union Foundry	
PB-008B-17	COM	2.42	Union Foundry	
PB-008B-18	COM	2.54	Union Foundry	
PB-008C-01	COM	3.46	Union Foundry	
PB-008C-02	COM	2.82	Union Foundry	
PB-008C-03	COM	2.00	Union Foundry	
PB-008C-04	COM	3.29	Union Foundry	Dilution

Phase 2: Commercial / Industrial Sampling Event
START-Field Screen -PCB

Sample ID	Type	Adjusted Value ppm	Location Description	COMMENT1
PB-008C-05	COM	3.72	Union Foundry	
PB-008C-06	COM	2.71	Union Foundry	
PB-008C-07	COM	11.20	Union Foundry	
PB-008C-TB01	COM	1.96		
PB-008C-TB02	COM	2.26	tributary	
PB-008C-TB03	COM	3.29		
PB-008C-TB04	COM	3.45		
PB-008C-TB05	COM	1.72		
PB-008D-01	COM	1.84	Union Foundry	
PB-008D-02	COM	1.31	Union Foundry	
PB-008D-03	COM	1.68	Union Foundry	
PB-009-01	COM	2.38	Pollock - Collins Oil	
PB-009-02	COM	1.65	Pollock - Collins Oil	
PB-009-03	COM	1.04	Pollock - Collins Oil	
PB-009-04	COM	0.89	Pollock - Collins Oil	
PB-009-05	COM	1.92	Pollock - Collins Oil	
PB-009-06	COM	3.09	Pollock - Collins Oil	
PB-009-07	COM	3.64	Pollock - Collins Oil	
PB-009-08	COM	5.76	Pollock - Collins Oil	
PB-009-09	COM	7.94	Pollock - Collins Oil	
PB-009-10	COM	16.30	Pollock - Collins Oil	
PB-010-01	COM	20.10	Shorty's Southern Yard	
PB-010-02	COM	16.50	Shorty's Southern Yard	
PB-010-03	COM	19.20	Shorty's Southern Yard	
PB-010-04	COM	21.10	Shorty's Southern Yard	
PB-010-05	COM	23.58	Shorty's Southern Yard	
PB-010-06	COM	17.50	Shorty's Southern Yard	
PB-010-07	COM	10.90	Shorty's Southern Yard	
PB-010-08	COM	26.64	Shorty's Southern Yard	
PB-010-09	COM	16.50	Shorty's Southern Yard	
PB-010-60A	COM	2.10	Shorty's Southern Yard	
PB-010-60B	COM	2.59	Shorty's Southern Yard	
PB-010-60C	COM	3.13	Shortys	
PB-011-01	COM	5.80	M & H Valve Company	
PB-011-02	COM	6.33	M & H Valve Company	
PB-011-03	COM	8.00	M & H Valve Company	
PB-011-04	COM	24.39	M & H Valve Company	
PB-011-05	COM	22.86	M & H Valve Company	
PB-011-06	COM	26.46	M & H Valve Company	
PB-011-07	COM	13.70	M & H Valve Company	
PB-011-08	COM	19.90	M & H Valve Company	
PB-011-09	COM	18.80	M & H Valve Company	
PB-011-10	COM	20.30	M & H Valve Company	
PB-011-11	COM	17.70	M & H Valve Company	
PB-011-12	COM	17.60	M & H Valve Company	
PB-011-40	COM	1.11	M & H Valve Company	
PB-011-60A	COM	4.33	M & H Valve Company	
PB-011-60C	COM	2.01	M & H Valve Company	
PB-011-61A	COM	10.80	M & H Valve Company	

Phase 2: Commercial / Industrial Sampling Event
START-Field Screen -PCB

Sample ID	Type	Adjusted Value ppm	Location Description	COMMENT1
PB-012-01	COM	6.86	Pryor Giggey	
PB-012-02	COM	8.80	Pryor Giggey	
PB-012-03	COM	4.73	Pryor Giggey	
PB-012-04	COM	13.90	Pryor Giggey	
PB-012-05	COM	13.70	Pryor Giggey	
PB-012-06	COM	16.50	Pryor Giggey	
PB-012-07	COM	0.87	Pryor Giggey	
PB-012-08	COM	1.51	Pryor Giggey	
PB-012-09	COM	6.23	Pryor Giggey	
PB-012-10	COM	3.55	Pryor Giggey	
PB-012-11	COM	4.35	Pryor Giggey	
PB-012-12	COM	3.30	Pryor Giggey	
PB-012-16	COM	3.46	Pryor Giggey	
PB-012-18	COM	3.53	Pryor Giggey	
PB-012-60A	COM	3.32	Pryor Giggey	
PB-013-01	COM	16.10	MCT Anniston Inc.	
PB-013-02	COM	17.60	MCT Anniston Inc.	
PB-013-03	COM	15.70	MCT Anniston Inc.	
PB-013-04	COM	21.10	MCT Anniston Inc.	
PB-013-05	COM	13.30	MCT Anniston Inc.	
PB-013-06	COM	20.30	MCT Anniston Inc.	
PB-013-07	COM	21.80	MCT Anniston Inc.	
PB-013-08	COM	16.70	MCT Anniston Inc.	
PB-013-09	COM	16.70	MCT Anniston Inc.	
PB-013-10	COM	14.00	MCT Anniston Inc.	
PB-013-11	COM	17.40	MCT Anniston Inc.	
PB-013-12	COM	24.30	MCT Anniston Inc.	
PB-013-13	COM	16.70	MCT Anniston Inc.	
PB-013-14	COM	17.30	MCT Anniston Inc.	
PB-013-15	COM	1.24	MCT Anniston Inc.	
PB-013-16	COM	2.29	MCT Anniston Inc.	
PB-013-17	COM	2.16	MCT	
PB-013-60	COM	8.90	MCT Anniston Inc.	
PB-013-61	COM	3.60	MCT Anniston Inc.	
PB-013-62	COM	17.60	MCT Anniston Inc.	
PB-013-63	COM	20.90	MCT Anniston Inc.	
PB-013-64	COM	19.80	MCT Anniston Inc.	
PB-013-65	COM	16.10	MCT Anniston Inc.	
PB-013-OF2	COM	477.00		
PB-013-OF3	COM	179.10		
PB-013SD-01	COM	1.90		
PB-014-01	COM	3.40	Anniston Concrete Company	
PB-014-02	COM	2.66	Anniston Concrete Company	
PB-014-03	COM	2.63	Anniston Concrete Company	
PB-014-04	COM	2.77	Anniston Concrete Company	
PB-014-05	COM	1.36	Anniston Concrete Company	
PB-014-06	COM	1.31	Anniston Concrete Company	
PB-014-07	COM	0.94	Anniston Concrete Company	
PB-014-60A	COM	4.01	Anniston Concrete Company	

Phase 2: Commercial / Industrial Sampling Event
START-Field Screen -PCB

Sample ID	Type	Adjusted Value ppm	Location Description	COMMENT1
PB-015-01	COM	13.40	Chalkline Metal	
PB-015-02	COM	2.23	Chalkline Metal	
PB-015-03	COM	2.80	Chalkline Metal	
PB-015-04	COM	4.36	Chalkline Metal	
PB-015-05	COM	4.22	Chalkline Metal	
PB-015-06	COM	13.50	Chalkline Metal	
PB-015-07	COM	2.99	Chalkline Metal	
PB-015-60	COM	6.18	Chalkline Metal	
PB-015-61	COM	3.12	Chalkline Metal	
PB-017-01	COM	3.16	AL Pipe and Foundry	
PB-017-02	COM	3.35	AL Pipe and Foundry	
PB-017-03	COM	2.72	AL Pipe and Foundry	
PB-017-04	COM	7.06	AL Pipe and Foundry	
PB-017-05	COM	12.10	AL Pipe and Foundry	
PB-017-06	COM	17.90	AL Pipe and Foundry	
PB-017-07	COM	14.30	AL Pipe and Foundry	
PB-017-08	COM	13.40	AL Pipe and Foundry	
PB-017-41	COM	2.07	AL Pipe and Foundry	
PB-017-60	COM	19.30	AL Pipe and Foundry	
PB-018-01	COM	2.67	Anniston Scrap	
PB-018-02	COM	3.05	Anniston Scrap	
PB-018-03	COM	2.26	Anniston Scrap	
PB-019-01	COM	9.40	Anchor Metals	
PB-019-02	COM	13.00	Anchor Metals	
PB-019-03	COM	19.00	Anchor Metals	
PB-019-04	COM	3.49	Anchor Metals	
PB-019-05	COM	4.13	Anchor Metals	
PB-019-06	COM	4.48	Anchor Metals	
PB-019-07	COM	3.41	Anchor Metals	
PB-019-08	COM	2.53	Anchor Metals	
PB-019-09	COM	2.73	Anchor Metals	
PB-019-10	COM	2.21	Anchor Metals	
PB-019-60A	COM	8.30	Anchor Metals	
PB-020-01	COM	9.10	Central Foundry	
PB-020-02	COM	16.70	Central Foundry	
PB-020-03	COM	13.60	Central Foundry	
PB-020-04	COM	3.09	Central Foundry	
PB-020-05	COM	4.96	Central Foundry	
PB-020-06	COM	7.11	Central Foundry	
PB-020-07	COM	14.20	Central Foundry	
PB-020-60	COM	9.00	Central Foundry	
PB-021-01	COM	2.78	Emory Foundry	
PB-021-02	COM	3.40	Emory Foundry	
PB-021-03	COM	2.51	Emory Foundry	
PB-021-04	COM	1.83	Emory Foundry	
PB-021-05	COM	2.40	Emory Foundry	
PB-021-06	COM	2.94	Emory Foundry	
PB-021-07	COM	2.68	Emory Foundry	
PB-021-60	COM	2.09	Emory Foundry	

Phase 2: Commercial / Industrial Sampling Event
START-Field Screen -PCB

Sample ID	Type	Adjusted Value ppm	Location Description	COMMENT1
PB-021B-01	COM	3.98	Emory Foundry	
PB-021B-02	COM	3.39	Emory Foundry	
PB-021B-03	COM	0.97	Emory Foundry	
PB-021B-04	COM	1.86	Emory Foundry	
PB-023-01	COM	3.66	Anniston Manufacturing	
PB-023-02	COM	1.38	Anniston Manufacturing	
PB-023-03	COM	1.63	Anniston Manufacturing	
PB-023-04	COM	1.87	Anniston Manufacturing	
PB-023-05	COM	1.53	Anniston Manufacturing	
PB-024-01	COM	1.69	Donoho Foundry	
PB-024-02	COM	2.38	Donoho Foundry	
PB-024-03	COM	1.33	Donoho Foundry	
PB-024-06	COM	1.49	Donoho Foundry	
PB-024-07	COM	1.20	Donoho Foundry	
PB-024-08	COM	2.26	Donoho Foundry	
PB-024-09	COM	4.33	Donoho Foundry	
PB-024-10	COM	2.79	Donoho Foundry	
PB-024-11	COM	4.83	Donoho Foundry	
PB-024-12	COM	4.61	Donoho Foundry	
PB-024-13	COM	3.83	Donoho Foundry	
PB-024-14	COM	3.36	Donoho Foundry	(time: 13:32 - 15:
PB-024-15	COM	3.17	Donoho Foundry	
PB-024-60	COM	2.99	Donoho Foundry	
PB-025-01	COM	2.80	Southeast Refactories	
PB-025-02	COM	4.49	Southeast Refactories	
PB-025-03	COM	4.20	Southeast Refactories	
PB-025-04	COM	3.57	Southeast Refactories	
PB-025-05	COM	6.08	Southeast Refactories	
PB-025-06	COM	10.20	Southeast Refactories	
PB-025-07	COM	5.51	Southeast Refactories	
PB-025-09	COM	3.13	Southeast Refactories	
PB-025-60A	COM	14.50	Southeast Refactories	
PB-AP-01	COM	3.20	At northeast corner of pr	
PB-AP-02	COM	117.00	Along east property line	
PB-AP-03	COM	11.60	East property line draina	
PB-AP-04	COM	56.52	Along east property line	
PB-AP-05	COM	290.70	Along east property line	
PB-AP-06	COM	38.16	On bank of east property	
PB-AP-07	COM	3.25	In drainage ditch along e	
PB-AP-08	COM	29.25	3 feet from fence line on	
PB-AP-09	COM	117.90	Along the fence line, sou	
PB-AP-10	COM	81.09	In drainage ditch along e	
PB-AP-11	COM	12.30	On bank of east property	
PB-AP-12	COM	722.70	In drainage ditch along e	
PB-AP-13	COM	276.30	In drainage ditch along e	
PB-AP-14	COM	179.10	On bank of east property	
PB-AP-15	COM	433.80	On bank of east property	
PB-AP-16	COM	342.90	On bank of east property	
PB-AP-17	COM	543.60	In drainage ditch along e	

Phase 2: Commercial / Industrial Sampling Event
START-Field Screen -PCB

Sample ID	Type	Adjusted Value ppm	Location Description	COMMENT1
PB-AP-18	COM	290.70	On bank of east properrty	
PB-AP-19	COM	370.80	Along fence line at south	
PB-AP-20	COM	47.70	Surface sample at south e	
PB-AP-21	COM	252.00	At south fence line about	
PB-AP-22	COM	24.66	At south property line at	
PB-AP-23	COM	4.64	At south fence line at so	
PB-AP-24	COM	5.48	At continuation of south	
PB-AP-25	COM	2.63	North fence line at gate	
PB-AP-26	COM	2.17	At NW corner of property	
PB-AP-27	COM	1.76	At north property line, a	
PB-AP-28	COM	3.84	At the intersection of no	
PB-AP-29	COM	3.50	Duplicate of PB-AP-28	
PB-AP-40	COM	1.75	Alabama Power, in the dit	
PB-AP-41	COM	1.44	Alabama Power, along east	
PB-AP-42	COM	45.63	Same location as BP-AP-20	
PB-AP-43	COM	1.59	At 18-24 inches below gro	
PB-ASP-01	COM	0.92	Along fence line adjacent	
PB-ASP-02	COM	1.00	Along fence line adjacent	
PB-ASP-03	COM	12.60	Along fence line near Pip	
PB-ASP-04	COM	4.92	Along fence line at the g	
PB-ASP-05	COM	2.61	Along fence line betweeen	
PB-ASP-06	COM	2.43	Along fence line at corne	
PB-ASP-07	COM	3.04	Along fence line at corne	
PB-ASP-08	COM	40.41	Along fence line east of	
PB-ASP-09	COM	3.57	Along fence line, at bend	
PB-ASP-10	COM	22.70	Along fence line about 35	
PB-ASP-11	COM	14.20	Along fence line in a dra	
PB-ASP-12	COM	8.20	Along the fence line at t	
PB-ASP-13	COM	8.40	Duplicate sample of PB-AS	
PB-ASP-14	COM	12.50	Along fence line on 10th	
PB-ASP-15	COM	13.50	Along fence line on 10th	
PB-ASP-16	COM	79.29	Along fence line on 10th	
PB-DD-01	COM	3.62		
PB-DD-02	COM	2.57		
[redacted]				
[redacted]LF-02	COM	2.60	Northeast corner of landf	
[redacted]LF-03	COM	2.70	On north side of landfill	
[redacted]LF-04	COM	2.21	On north side of landfill	
[redacted]LF-05	COM	3.39	In drainage structure/nor	
[redacted]LF-06	COM	2.79	Northwest corner of landf	
[redacted]LF-07	COM	3.60	Foundry sand from the mid	
[redacted]MK-01	RES	5.98	Northeast corner of trail	
[redacted]MK-02	RES	2.72	In drainage structure app	
[redacted]	[redacted]	2.17	[redacted]	
PB-RR-01	COM	2.70	North of RR and southwest	
PB-RR-02	COM	2.08	approximately 1000 feet e	
PB-RR-03	COM	1.99	North side of RR, east of	
PB-RR-04	COM	3.91	South side of RR, 360 fee	
PB-RR-05	COM	2.83	at the beginning of the R	

Reeves Rd LF
UFC
and McKinney Property

Phase 2: Commercial / Industrial Sampling Event
START-Field Screen -PCB

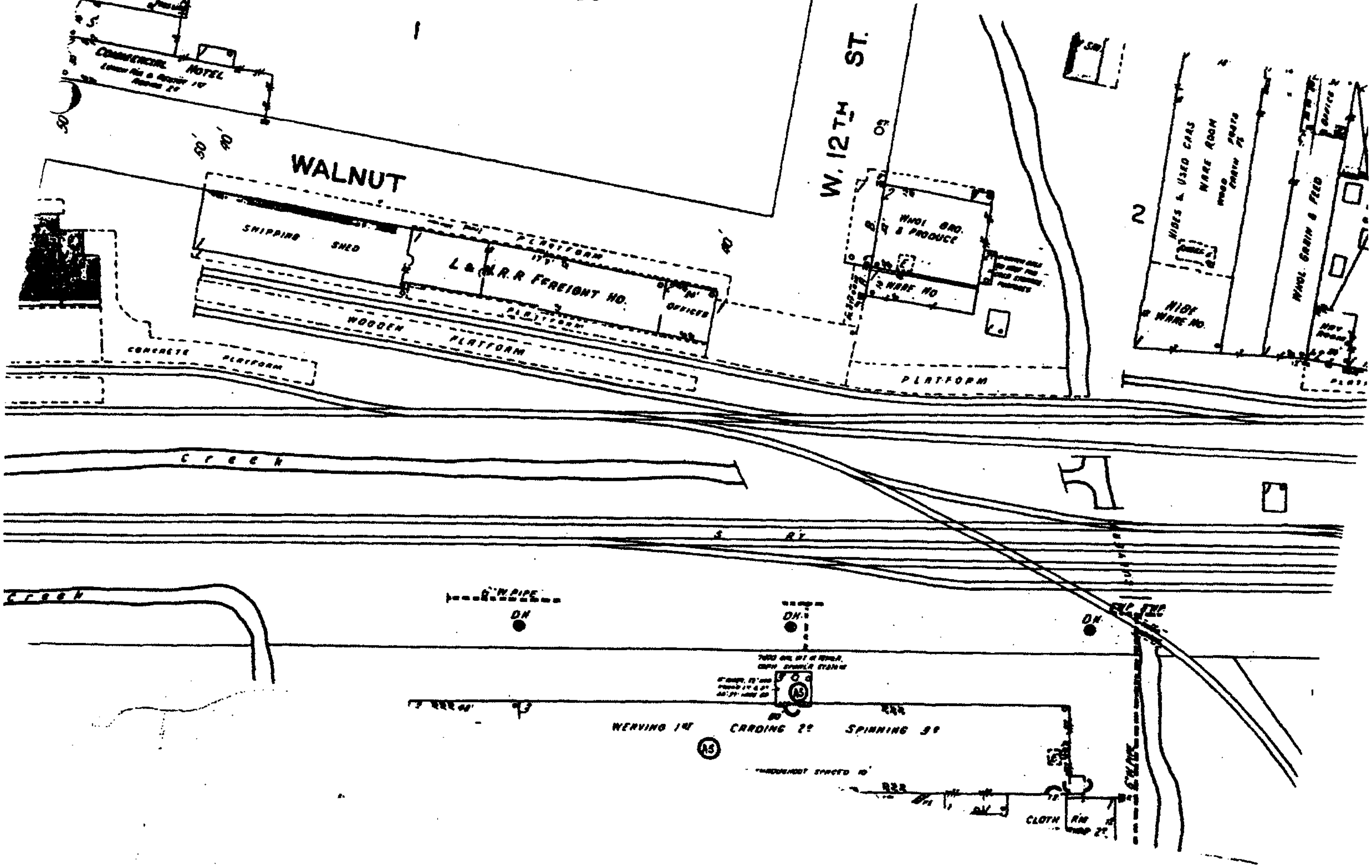
Sample ID	Type	Adjusted Value ppm	Location Description	COMMENT1
PB-RR-06	COM	1.72	West side of RR near Alab	
PB-RR-07	COM	1.47	Near drain concrete culve	
PB-RR-08	COM	3.52	along fence line followin	
PB-RR-09	COM	38.16	Confluence of drainage di	
PB-RR-10	COM	4.88	Northwest of lot containi	
PB-RR-11	COM	1.00	Along fence line of indus	
PB-RR-12	COM	4.38	North side of RR, 150' ea	
PB-RR-13	COM	11.40	North side of RR, near en	
PB-RR-14	COM	8.10	100 yards past the indust	
PB-RR-15	COM	53.37	In ditch on south side of	
PB-RR-16	COM	1.91	Approximately 60 ft south	
PB-RR-18	COM	4.64	In outfall of pipe from S	
PB-RR-19	COM	15.40	Almost directly across th	
PB-RR-21	COM	29.97	At the confluence of two	
PB-RR-22	COM	6.51	South side of RR, between	
PB-RR-24	COM	33.84	In culvert inlet of drain	
PB-RR-25	COM	2.50	North of Alabama Power St	
PB-RR-27	COM	9.70	In ditch on south side of	
PB-RR-28	COM	2.68	On north side of RR, near	
PB-RR-30	COM	1656.00	On north side of RR in di	
PB-RR-30	COM	2815.20	On north side of RR in di	
PB-RR-30DIL	COM	1717.20		
PB-RR-31	COM	1.48	South side of RR, approxi	
PB-RR-33	COM	22.50	north side of RR drainage	
PB-RR-34	COM	2.14	where streams flowing fro	
PB-RR-36	COM	3.31	South of RR on east bank	
PB-RR-37	COM	4.79	South side of RR, approxi	
PB-RR-39	COM	2.05	Duplicate of PB-RR-36	
PB-RR-40	COM	4.81	Duplicate of PB-RR-37	
PB-RR-42	COM	68.58	Confluence of ditch flowi	
PB-RR-43	COM	5.32	South side of RR, approxi	
PB-RR-45	COM	9.30	In ditch on north side of	
PB-RR-46	COM	4.83	near drain pipe	
PB-RR-48	COM	16.90	Confluence of ditch flowi	
PB-RRB1-01	COM	1.87	At culvert inlet, culvert	
PB-RRB1-02	COM	9.90	At stream flowing south u	
PB-RRB1-03	COM	6.82	Near stream flowing south	
PB-RRB1-04	COM	4.25	Drainage swale exiting Tu	
PB-RRB1-05	COM	3.86	Bank of Snow Creek, north	
PB-RRB2-01	COM	6.64	West side of the RR that	
PB-RRB2-02	COM	3.76	West side of the Rrthat i	
PB-RRB2-03	COM	2.89	West side of the RR that	
PB-RRB2-04	COM	5.23	Drainage way on east side	
PB-RRB2-05	COM	3.22	West side of snow creek b	
PB-RRB2-06	COM	4.79	West side of Snow Creek B	
PB-RRB2-07	COM	3.29	Just south of P Street, w	
PB-RRB2-08	COM	2.96	In drainage ditch, west o	
PB-RRB3-01	COM	1.12	At out fall to Snow Creek	
PB-RRB3-02	COM	2.27	Along bank of Snow Creek,	

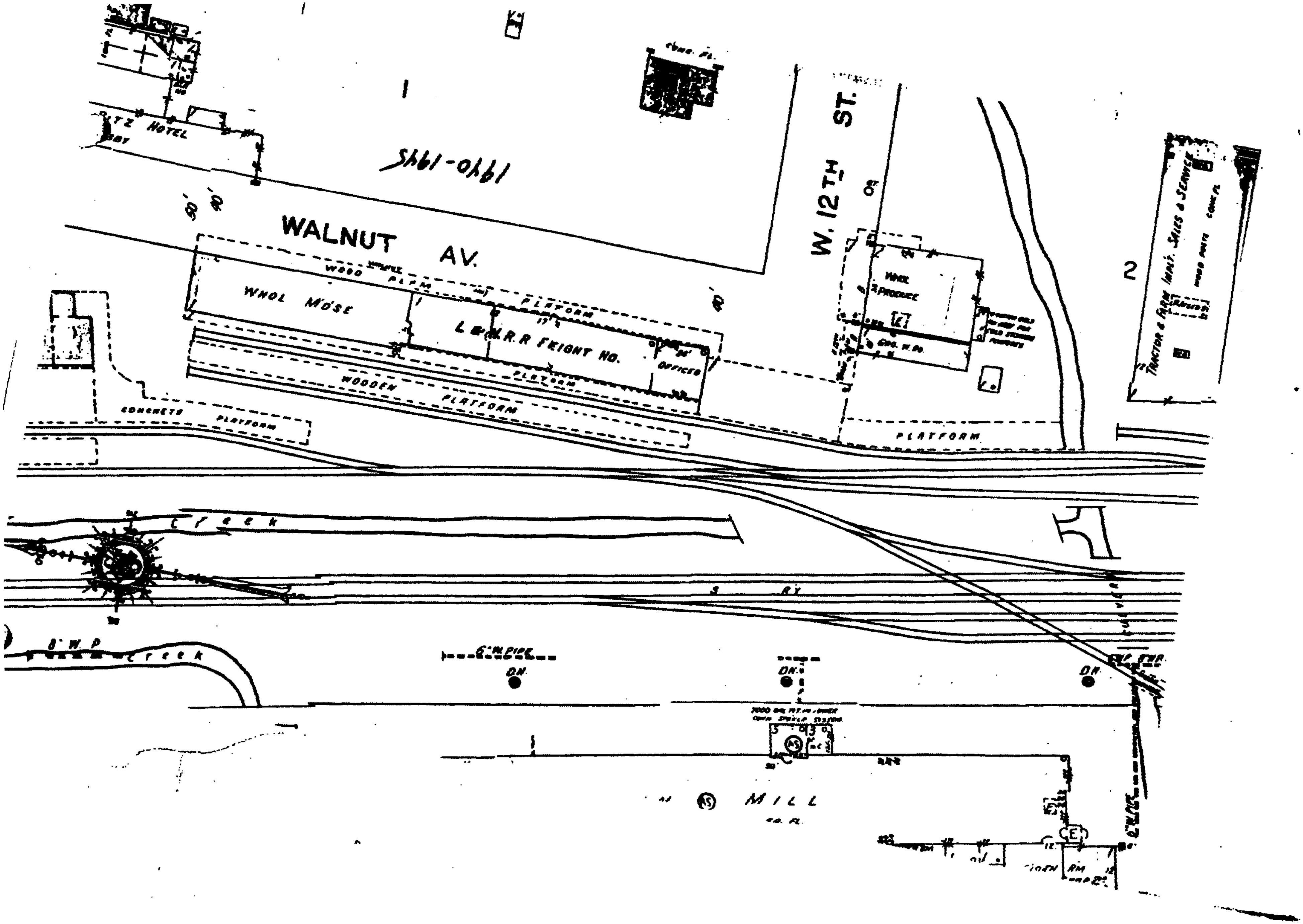
Phase 2: Commercial / Industrial Sampling Event
START-Field Screen -PCB

Sample ID	Type	Adjusted Value ppm	Location Description	COMMENT1
PB-RRB3-03	COM	2.77	West side of RR, due west	
PB-RRB3-04	COM	5.15	Sand bar in Snow Creek, 3	
PB-RRB3-05	COM	8.60	50 feet west of Snow Cree	
PB-RRB3-06	COM	4.87	Sand bar (foundry black s	
PB-RRB3-07	COM	4.23	Bank of drainage swale be	
PB-SPR2-SD	COM	2.64		
[illegible]FL-06	COM	3.91	Reeve Rd - LF	
PB-ZB-01	RES	26.28	912 Duncan, front yard	
PB-ZB-02	RES	9.60	912 Duncan, front yard	
PB-ZB-03	RES	8.10	912 Duncan, backyard	
PB-ZB-04	RES	14.90	912 Duncan, backyard	
PB-ZB-05	RES	15.20	917 Bancroft, front yard	
PB-ZB-06	RES	10.70	917 Bancroft, front yard	
PB-ZB-07	RES	3.17	905 Pipe Street, front ya	
PB-ZB-08	RES	3.41	905 Pipe Street, front ya	
PB-ZB-09	RES	13.90	905 Pipe Street, backyard	
PB-ZB-10	RES	13.90	905 Pipe Street, at swing	
PB-ZB-11	RES	4.82	906 Pipe Street, off porc	
PB-ZB-12	RES	11.40	906 Pipe Street, front ya	
PB-ZB-13	RES	3.27	906 Pipe Street, center o	
PB-ZB-14	RES	1.74	906 Pipe Street, backyard	
PB-ZB-15	RES	11.60	909 Pipe Street, front ya	
PB-ZB-16	RES	3.72	909 Pipe Street, front ya	
PB-ZB-17	RES	4.28	909 Pipe Street, backyard	
PB-ZB-18	RES	1.92	909 Pipe Street, backyard	
PB-ZD-01	RES	3.20	1012 Ferron Avenue, front	
PB-ZD-02	RES	4.23	1012 Ferron Avenue, front	
PB-ZD-03	RES	4.51	1012 Ferron Avenue, backy	
PB-ZD-04	RES	4.11	1012 Ferron Avenue, backy	
PB-ZD-05	RES	2.47	1016 Ferron Avenue, along	
PB-ZD-06	RES	4.06	1016 Ferron Avenue, front	
PB-ZD-07	RES	3.71	1016 Ferron Avenue, about	
PB-ZD-08	RES	2.18	1016 Ferron Avenue, along	
PB-ZD-09	RES	2.54	1022 Ferron Avenue, front	
PB-ZD-10	RES	3.88	1022 Ferron Avenue, 1.2 f	
PB-ZD-11	RES	2.46	1022 Ferron Avenue, backy	
PB-ZD-12	RES	2.40	1022 Ferron Avenue, backy	
PB-ZD-13	RES	3.85	1125 Ferron Avenue, front	
PB-ZD-14	RES	4.52	1125 Ferron Avenue, front	
PB-ZD-15	RES	2.17	1125 Ferron Avenue, backy	
PB-ZD-16	RES	3.11	1125 Ferron Avenue, backy	

ATTACHMENT 11

1925-35


WALNUT
W. 12TH ST.
COMMERCIAL HOTEL
SHIPPING SHED
L.&N.R.R. FREIGHT HO.
OFFICES
PLATFORM
WOODEN PLATFORM
CONCRETE PLATFORM
WHOL. GRO. & PRODUCE
WARE HO.
HIDES & USED CARS
WARE ROOM
HIDE & WARE HO.
WHOL. GRAIN & FEED
Creek
Creek
WEAVING 1ST
CARDING 2ND
SPINNING 3RD
CLOTH RM


1940-1945
WALNUT AV.
W. 12TH ST.
WHOL M'DSE
WOOD PLATFORM
PLATFORM
L. & W. R.R. FREIGHT HO.
OFFICES
WOODEN PLATFORM
CONCRETE PLATFORM
WHOL PRODUCE
PLATFORM
TRACTOR & FARM IMPLT. SALES & SERVICE
WOOD POSTS
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2
1
HOTEL
creek
creek
DN.
DN.
DN.
MILL
CULVERT

ATTACHMENT 12

United States Environmental Protection Agency, Region 4
Waste Management Division (WMD)
61 Forsyth Street, SW
Atlanta, GA 30303-8909
Science and Ecosystem Support Division (SESD)
980 College Station Road
Athens, GA 30605

FIELD INVESTIGATION REPORT
ANNISTON PCB SITE, CALHOUN COUNTY ANNISTON, ALABAMA

SESD Project Leader: Timothy D. Simpson
Science and Ecosystem Support Division
Project Manager: Karen Knight, OSC
Waste Management Division
U.S. EPA Region 4

United States Environmental Protection Agency
June 2000

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1.0 INTRODUCTION

During the week of February 14, 2000, the USEPA Region 4, Science and Ecosystem Support Division (SESD) conducted a Field Investigation (FI) at the Anniston PCB site. The site consists of residential and communal areas surrounding Solutia, Inc. (Solutia) in the western side of Anniston, Alabama. The investigation was requested by Karen Knight of the USEPA, Region 4, Waste Management Division, Emergency Response and Removal Branch, Removal Operations Section.

The primary contaminants of concern at the Anniston site are PCBs. Elevated concentrations of PCBs have previously been detected in surface soils. Exposure routes include inhalation/ingestion of PCB contaminated dust and dermal contact with contaminated soil and sediment. Suspected routes of migration include the stormwater draining of the Solutia site and air deposition. In addition to the PCBs, elevated levels of pesticides (including DDT and chlordane) have been detected in environmental samples collected at several locations. Additional environmental data submitted to the Agency for Toxic Substances and Disease Registry (ATSDR) indicated the possible presence of dioxin in blood samples of some of the residents in the Anniston area. In order to assess the potential for dioxin contamination, EPA collected 20 samples for dioxin/furans analyses.

Samples were collected to characterize the nature and horizontal extent of PCB contamination in target residential and communal areas surrounding the Solutia site and to identify contaminated soil for potential removal or remedial action. A Quality Assurance Project Plan (QAPP) for conducting the investigation at the Anniston PCB site was developed by the United States Environmental Protection Agency (EPA), Region 4, SESD, in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, amended by the *Superfund Amendments and Reauthorization Act (SARA)*, of 1986 (EPA 1986). ***EPA QA/G-5, EPA Guidance for QAPPs*** was followed during the development of the QAPP.

1.1 Background/Site Location

Solutia is a chemical production facility located at 300 Birmingham Highway in Anniston, Alabama. The facility encompasses approximately 570 acres, 70 of which are used as the plant site. Operations began at the Solutia plant in 1917 under the ownership of the Southern Manganese Corporation. Initially, ferro manganese and other steel-making chemicals were produced. Beginning in the late 1920's, organic chemicals were produced at the plant, including biphenyl and polychlorinated biphenyls (PCBs). The plant was purchased by Monsanto in 1935. Over the years, phosphates, chlorine, insecticides, and fire-resistant industrial and electrical fluids (including PCBs, parathion, and phosphorous pentasulfide) were produced at the plant. Presently the primary products consist of paranitrophenol (PNP) and polyphenyl compounds. On-site landfills exist on the south and west ends of the facility property containing wastes, including PCBs, from past production processes. PCB production ceased in the early 1970s. Monsanto created Solutia, Inc. in 1997 as a separate company for its chemical business.

Community concerns have arisen as to the presence of PCB compounds in the soil and air of the surrounding residential areas. Air and soil samples have been collected and analyzed by consultants of the community and by SESD. The results of the samples show the presence of PCBs in the air and surface soil in the communities surrounding Solutia property.

1.2 Previous Sampling Activities

During the week of June 28, 1999, SESD conducted a surface soil and air investigation in the residential and communal areas surrounding Solutia. The investigation included surface soil sampling in residential areas surrounding the facility and air sampling conducted at perimeter fence locations around Solutia.

During the investigation, surface soil samples were collected from 37 locations near the Solutia facility. The SESD collected the samples from communal and residential areas within the communities surrounding the facility, such as residential yards, churches, schools, and community centers to gain an initial understanding of the general levels and distribution of PCBs within the community. No samples were collected on property owned by Solutia, Inc.

Each surface soil sample consisted of a composite of 3 to 5 aliquots from the top 5 centimeters of soil. At the residential locations, 4 aliquots were collected from areas where high levels of activity were apparent, near roof drainage areas, and around foundations. At schools, churches, recreational areas, etc., five aliquots were collected from areas central to high activity, such as recreational areas and ballfields. In one sampling location, an additional composite sample was collected of soils from 0-8 inches to assess the potential for vertical migration of contamination. Two duplicate samples were collected to assess variability of PCB concentrations within a location Duplicate samples were collecting by taking the same number of aliquots of soil from different points within the same property as the original sample.

1.3 Previous Sampling Results and Discussion

Samples collected by SESD during June 28-30, 1999, were submitted for analysis of PCBs as Aroclors, including Aroclor 1262 and 1268 in addition to the standard PCB scan. Of the 40 soil samples collected, thirty-eight contained some level of Aroclor 1268, twenty-two contained Aroclor 1260, seven contained Aroclor 1254, and two contained Aroclor 1242. Total PCB concentrations were calculated for each sample by summing the individual Aroclors detected in that sample. Table 1-2 contains the total PCB concentrations in soil for each sample. In general, the concentrations of total PCBs were highest near the Solutia facility and especially near the storm water drainage system from the facility.

Miscellaneous pesticide compounds were also detected during the investigation. Although they were not an initial focus of the investigation, levels of dichlorodiphenyltrichloroethane (DDT) and chlordane present in the samples were apparent during analysis; therefore, these compounds were quantified and reported. DDT and its breakdown products, DDE and DDD, were detected in a majority of the samples. For the large majority of samples in which DDT was detected, the ratio of DDT to its breakdown products, DDE and DDD, indicated a relatively recent application of DDT.

TABLE 1-1
EPA ANALYTICAL DATA: TOTAL PCBs
DATA COLLECTED JUNE 28-30, 1999

Sample ID	Total PCBs (mg/kg)	Sample ID	Total PCBs (mg/kg)
001	0.80	019	0.07
002	0.33	020	0.02
003	0.22	021	1.28
004	0.02	022	0.06
005	1.61	023	0.02
006	U	024	4.29
007	U	025	0.18
008	0.06	026	0.10
009	0.07	027	0.04
010	1.42	028	0.02
010D	0.15	029	0.05
011	0.23	030	2.44
012	13.70	031	0.11
013	0.20	032	0.14
014	0.35	033	6.34
014D	0.79	034	15.24
015	0.96	035	2.28
016	0.26	036	1.41
017	0.92	037	2.07
018	1.12	038	3.05

U - Material (PCBs) analyzed for but not detected.

2.0 SAMPLING STRATEGIES AND RATIONALE

2.1 Field Investigation (Week of February 14, 2000)

Environmental samples were collected from residential and communal areas, such as churches, schools, and community centers, surrounding the Solutia facility to assess the nature and horizontal presence of contamination. EPA reviewed data collected by community groups, the Alabama Department of Public Health, the Alabama Department of Environmental Management, and past data collected by SESD to identify areas of potential PCB contamination. Meetings with community groups, Community Against Pollution (CAP) and Sweet Valley Cobb Town Task Force (SVCTTF), and consequent site reconnaissances were conducted by EPA. The purpose of the meetings and reconnaissances were to identify locations of potential sampling sites including schools, day-care centers, and high-use community areas.

Property owners of the sampling locations and/or their attorneys were contacted by the OSC and/or community relations specialist for access approval prior to the commencement of sampling. Each surface soil sample consisted of a grab sample from the top three inches of soil. When possible, aliquots were collected in areas where high levels of activity (potential human exposure) were apparent. Approximately two grab samples were collected per sampling location from the top three inches of soil. Generally, at each residential/communal location, one sample was collected from the front yard and one sample was collected from the backyard. When possible, samples were collected within 200 feet of residential and communal buildings.

2.2 Sample Collection and Handling Procedures

Samples were collected, containerized, tagged, sealed, preserved, handled, and documented in accordance with the Environmental Investigations Standard Operating Procedures and Quality Assurance Manual (EISOPQAM). All chain-of-custody and record keeping procedures were in accordance with the EISOPQAM. A copy of the manual, in addition to the Field Health and Safety Plan, was maintained at the command post for reference during all phases of the field sampling activities.

2.3 Surface Soil Sampling

Grab samples, with the exception of those for VOC analyses, were collected using stainless steel hand augers/handles/extensions or stainless steel spoons as specified in the EISOPQAM. Samples were mixed in glass mixing pans using stainless steel spoons. Samples for VOC analyses were collected directly into an Encore® sampler and were not mixed.

2.4 Sample Analysis

Samples were laboratory analyzed for PCBs (Aroclor scan), pesticides (including DDT, DDE, and chlordane), and base/neutral and acid (BNAs) extractables compounds. Based on the June 1999 EPA data, Aroclor 1268 was added to the Aroclor scan. Aroclor 1268 replaced Aroclor 1221 in the list of Aroclor analytes. Previous sampling data indicates that Aroclor 1221 is not found in the soils adjacent to the Solutia facility. In addition, Aroclor 1262, which was added to the Aroclor scan in the June 1999 investigation, was not analyzed based on the EPA's 1999 analytical results.

In order to fill data gaps, approximately ten percent of the samples were analyzed for the complete routine analytical suite of the Target Compound and Target Analyte Lists (TCL/TAL), which includes VOCs and total metals. An additional 20 samples were collected for a dioxins/furans scan. All samples were analyzed in accordance with the Analytical Support Branch Operations and Quality Control Manual (ASBOQCM, EPA 1997) or as specified by the current USEPA standard procedures and protocols for the Contract Laboratory Program (CLP).

2.5 Data Validation/Usability

The PCB, pesticide, and BNA analytical data for the Anniston PCB site was validated by the USEPA's contractor, Environmental Services Assistance Team (ESAT) using the USEPA's National Functional Guidelines for Organic Data Review, February 1994 and the USEPA Region 4 Data Validation Standard Operating Procedure, Revision 2.1, July 1999. These guidance documents govern the validation process for the data generated by a CLP laboratory. Additional data review was provided by the SESD's Office of Quality Assurance (OQA).

A case narrative and data qualifier report was generated for each set of CLP data. The case narrative provides a summary of any deficiencies associated with each CLP data set. The data qualifier report alerts the project leader of quality control problems identified during the data validation process.

The SESD field project leader reviewed the data qualifier report to determine any data limitations and consulted with the OQA staff to determine the impact of any qualified data on overall data usability for the project. Detailed guidance for data assessment may be found in Guidance for Data Quality Assessment, EPA QA/G-9, July 1996.

3.0 ANALYTICAL RESULTS/CONCLUSIONS (FEBRUARY 2000)

3.1 PCBs/Pesticides

One hundred forty-four samples, including QA/QC split samples, were analyzed for PCBs and pesticides. PCBs were detected in 122 of the 144 samples collected. Aroclor 1268 was detected in 118 samples, Aroclor 1260 in 45 samples, Aroclor 1248 in 4 samples, and Aroclor 1016 in one sample. Aroclors 1232, 1242, and 1254 were not detected. Thirty-eight samples contained total PCBs above 2.0 ppm. Six of the 38 samples (~~four~~ two residential locations) contained total PCBs above 10.0 ppm. The analytical results for PCBs are summarized in Table 3-1. Additional sampling events have been scheduled to further characterize the presence of PCBs in the residential/communal areas surrounding Solutia.

Of the 144 samples, 27 contained rejected PCB data. This affected 21 sampling locations, including the background sample, one drainage ditch near a residential area, and one QC/QC split sample. Of the 20 residential locations with rejected data, 4 had data rejected from both sampling locations. All data rejected contained no detectable levels for PCBs; however, due to quality control issues, the data are unuseable. PCBs may or may not be present. Two of the 27 samples with rejected data contained data from samples exceeding the holding time. For sampling locations PA-115B and PA-370A, data for aroclor 1260 was flagged for "excessive holding times". Resampling and reanalysis was necessary for the verification of the data. All locations with rejected data were resampled in May 2000. Those data will be reported in a separate report.

DDT or its breakdown products, DDE and DDD, were detected in 85 samples. Total DDT is calculated as the sum of DDT and its breakdown products. In these samples, total DDT represents the sum of 4,4'-DDT, 4,4'-DDE, and 4,4'-DDD. Total DDT concentrations are summarized in Table 3-2. The highest concentration of Total DDT detected was 4.4J mg/kg (ppm). Concentrations of total DDT were generally below 2 ppm in the majority of samples.

Alpha-chlordane, gamma-chlordane, heptachlor, and heptachlor epoxide, components of commercial chlordane, were detected in many of the soil samples. Both chlordane and DDT have been banned from production and use in the United States. Table 3-3 summarizes the concentrations of chlordane, chlordane components, and other pesticides detected.

3.2 VOCs

VOC analytical data are summarized in Table 3-4. Acetone was detected in levels ranging from 16 ug/kg to 270J ug/kg. The highest level detected was in the background sample. Acetone was also detected in the two soil trip blanks. The source of the acetone is potentially laboratory contamination. Methyl butyl ketone was detected in several samples ranging from 24 ug/kg to 98 ug/kg. The levels detected were similar to the level detected in the background sample. Bromomethane and carbon disulfide were detected in one environmental sample. Based on the February sampling results, VOCs do not appear to be a concern in the residential areas.

3.3 Metals

Analytical results for metals are summarized in Table 3-5. Mercury was detected at two sampling locations, including sample PA-101B (0.54 mg/kg (ppm)). An elevated lead level (1000 mg/kg) was detected in sample PA-101B. Station PA-101B was a drainage ditch that is located adjacent to a residential area. Lead levels detected in other residential locations ranged from 2.0 mg/kg to 170 mg/kg. The level of mercury detected in the residential area was 0.13 mg/kg. This is just above the 0.09 mg/kg detection level used. The quality control spit sample collected at the same residential location and did not have detectable levels (below 0.09 mg/kg) of mercury.

Arsenic was detected in 10 samples ranging from 1.2J mg/kg to 15J mg/kg. Chromium was detected in 11 samples ranging from 3.7J mg/kg to 93J mg/kg. The highest level of chromium detected was at station PA-101B.

3.4 Dioxin/Furans

The analytical results for dioxins and furans are summarized in Table 3-6. Dioxins and furans were detected in twenty samples. The Toxic Equiv. Value (TEQ) ranged from 0.12 ng/kg (ppt) to 89J ng/kg. The TEQ at the background sampling location was 0.46 ng/kg.

3.5 BNAs

BNA analytical results are summarized in Table 3-7. Three miscellaneous compounds were detected in the background sample. No other BNAs were detected in the background sample. Polyaromatic hydrocarbons (PAHs) were detected in approximately 100 samples. The highest levels ofPAHs detected were at sample station PA-101B. This sampling location was the drainage ditch adjacent to a residential area.

TABLE 3-1
ANALYTICAL RESULTS - TOTAL PCBs
ANNISTON PCB SITE
ANNISTON, ALABAMA
FEBRUARY 2000

ug/kg	Aroclor 1016	Aroclor 1232	Aroclor 1242	Aroclor 1254	Aroclor 1268	Aroclor 1260	Aroclor 1248	Total PCBs (ppb)	Total PCBs (ppm)
PA-BAK	UR	UR	UR	UR	UR	UR	UR	–	–
PA-005A	U	U	U	U	30J	99	U	129J	0.129J
PA-005B	U	U	U	U	26J	U	U	26J	0.026J
PA-008A	U	U	U	U	4,100	U	U	4.100	4.1
PA-308A	U	U	U	U	2,900	U	U	2.900	2.9
PA-008B	U	U	U	U	2,200	U	U	2.200	2.2
PA-011A	U	U	U	U	36J	U	U	36J	0.036J
PA-011B	U	U	U	U	U	U	U	–	–
PA-015A	U	U	U	U	580	1.900	U	2.480	2.48
PA-015B	U	U	U	U	660	2.700	U	3.360	3.36
PA-315A	U	U	U	U	480	1,400	U	2.880	2.88
PA-017A	U	U	U	U	1,800	670J	U	2.470J	2.47J
PA-017B	U	U	U	U	780	U	U	780	0.78
PA-018A	U	U	U	U	2,100	U	U	2.100	2.1
PA-018B	U	U	U	U	2,400	U	U	2.400	2.4
PA-026A	U	U	U	U	U	U	U	–	–
PA-026B	U	U	U	U	U	U	U	–	–
PA-027A	U	U	U	U	U	550	U	550	0.55
PA-027B	UR	UR	UR	UR	UR	81J	UR	81J	0.081J
PA-030A	U	U	U	U	5,900	U	U	5.900	5.9
PA-030B	U	U	U	U	3,800	U	U	3,800	3.8
PA-040A	UR	UR	UR	UR	UR	UR	UR	–	–
PA-040B	UR	UR	UR	UR	830J	UR	320J	1.150J	1.15J
PA-340B	UR	UR	UR	UR	180J	UR	78J	258J	0.258J
PA-046A	U	U	U	U	1,100	U	U	1.100	1.1
PA-046B	U	U	U	U	48J	U	U	48J	0.048J
PA-047A	U	U	U	U	1,400	U	U	1.400	1.4
PA-047B	U	U	U	U	1,600	410J	U	2.010J	2.01J
PA-048A	U	U	U	U	33J	U	U	33J	0.033J
PA-048B	U	U	U	U	420	U	U	420	0.42

ug/kg	Aroclor 1016	Aroclor 1232	Aroclor 1242	Aroclor 1254	Aroclor 1268	Aroclor 1260	Aroclor 1248	Total PCBs (ppb)	Total PCBs (ppm)
PA-049A	U	U	U	U	230	U	U	230	0.23
PA-049B	U	U	U	U	92J	U	U	92J	0.092J
PA-050A	UR	UR	UR	UR	550J	UR	UR	550J	0.55J
PA-350A	U	U	U	U	1,400J	U	U	1,400J	1.4J
PA-050B	U	U	U	U	480J	U	U	480J	0.48J
PA-051A	U	U	U	U	480	U	U	480	0.48
PA-051B	U	U	U	U	470J	250J	U	720J	0.72J
PA-052A	U	U	U	U	90J	U	U	90J	0.09J
PA-052B	U	U	U	U	85J	U	U	85J	0.085J
PA-053A	U	U	U	U	12J	U	U	12J	0.012J
PA-053B	U	U	U	U	1,100	U	U	1,100	1.1
PA-054A	U	U	U	U	160J	U	U	160J	0.16J
PA-054B	U	U	U	U	290	190J	U	480J	0.48J
PA-056A	UR	UR	UR	UR	UR	UR	UR	–	–
PA-056B	U	U	U	U	U	U	U	–	–
PA-057A	UR	UR	UR	UR	UR	UR	UR	–	–
PA-057B	U	U	U	U	U	U	U	–	–
PA-060A	U	U	U	U	U	U	U	–	–
PA-060B	U	U	U	U	U	U	U	–	–
PA-061A	UR	UR	UR	UR	UR	UR	UR	–	–
PA-061B	U	U	U	U	74J	U	U	74J	0.074J
PA-062A	UJ	UJ	UJ	UJ	140	UJ	UJ	140	0.14
PA-062B	U	U	U	U	U	U	U	–	–
PA-063A	UR	UR	UR	UR	UR	UR	UR	–	–
PA-063B	U	U	U	U	30J	U	U	30J	0.03J
PA-064A	UR	UR	UR	UR	UR	UR	UR	–	–
PA-064B	U	U	U	U	U	U	U	–	–
PA-065A	U	U	U	U	130J	U	U	130J	0.13J
PA-065B	U	U	U	U	150J	U	U	150J	0.15J
PA-066A	U	U	U	U	U	U	U	–	–
PA-066B	U	U	U	U	14J	U	U	14J	0.014J
PA-067A	U	U	U	U	13J	U	U	13J	0.013J
PA-067B	U	U	U	U	U	U	U	–	–
PA-068A	U	U	U	U	94J	U	U	94J	0.094J
PA-068B	U	U	U	U	58J	U	U	58J	0.058J

ug/kg	Aroclor 1016	Aroclor 1232	Aroclor 1242	Aroclor 1254	Aroclor 1268	Aroclor 1260	Aroclor 1248	Total PCBs (ppb)	Total PCBs (ppm)
PA-070A	U	U	U	U	1,300	610	U	1,910	1.91
PA-370A	UR	UR	UR	UR	2,800J	880J*	UR	3,680J	3.68J
PA-070B	U	U	U	U	280	U	U	280	0.28
PA-370B	U	U	U	U	350	U	U	350	0.35
PA-080A	U	U	U	U	U	U	U	–	–
PA-080B	U	U	U	U	650J	U	U	650J	0.65J
PA-081A	UJ	UJ	UJ	UJ	16J	UJ	UJ	16J	0.016J
PA-081B	U	U	U	U	27J	U	U	27J	0.027J
PA-082A	UJ	UJ	UJ	UJ	710	1,900	UJ	2,610	2.6
PA-082B	U	U	U	U	1,700	3,400	U	5,100	5.1
PA-083A	U	U	U	U	1,600	2,400	U	4,000	4.0
PA-083B	U	U	U	U	1,700	2,500	U	4,200	4.2
PA-084A	U	U	U	U	130J	31J	U	161J	0.161J
PA-084B	U	U	U	U	22J	U	U	22J	0.022J
PA-085A	U	U	U	U	1,200	890	U	2,090	2.09
PA-085B	U	U	U	U	1,000	760	U	1,760	1.76
PA-087A	UJ	UJ	UJ	UJ	1,000	770	UJ	1,770	1.77
PA-087B	U	U	U	U	800	550	U	1,350	1.35
PA-088A	U	U	U	U	4,500	U	U	4,500	4.5
PA-088B	U	U	U	U	1,600	5,100	U	6,700	6.7
PA-089A	UJ	UJ	UJ	UJ	490	UJ	UJ	490	0.49
PA-089B	UJ	UJ	UJ	UJ	440	UJ	UJ	440	0.44
PA-090A	U	U	U	U	820	U	U	820	0.82
PA-090B	UR	UR	UR	UR	70J	UR	UR	70J	0.07J
PA-091A	U	U	U	U	430	U	U	430	0.43
PA-091B	U	U	U	U	100J	U	U	100J	0.1J
PA-092A	U	U	U	U	150	U	U	150	0.15
PA-092B	U	U	U	U	2,500	U	U	2,500	2.5
PA-097A	U	U	U	U	280J	U	U	280J	0.28J
PA-097B	U	U	U	U	3,000	950	U	3,950	3.95
PA-099A	U	U	U	U	1,400	390	U	1,790	1.79
PA-099B	U	U	U	U	710	220	U	930	0.93
PA-100A	UR	UR	UR	UR	47J	UR	UR	47J	0.047J
PA-100B	U	U	U	U	800	U	U	800	0.8
PA-101A	UJ	UJ	UJ	UJ	UJ	130J	2,300	2,430J	2.43J

ug/kg	Aroclor 1016	Aroclor 1232	Aroclor 1242	Aroclor 1254	Aroclor 1268	Aroclor 1260	Aroclor 1248	Total PCBs (ppb)	Total PCBs (ppm)
PA-101B	UR	UR	UR	UR	UR	UR	UR	–	–
PA-103A	U	U	U	U	820	2,000	U	2,820	2.82
PA-103B	U	U	U	U	2,000	1,500	U	3,500	3.5
PA-113A	190J	UR	UR	UR	UR	44J	UR	234J	0.234J
PA-113B	U	U	U	U	470	U	U	470	0.47
PA-114A	UR	UR	UR	UR	19J	UR	UR	19J	0.019
PA-114B	UJ	UJ	UJ	UJ	99J	260J	UJ	359J	0.359J
PA-115A	UR	UR	UR	UR	51J	UR	UR	51J	0.051J
PA-315AA	UR	UR	UR	UR	490J	370J	UR	860J	0.86J
PA-115B	UR	UR	UR	UR	1,100J	830J*	UR	1,930J	1.93J
PA-116A	UR	UR	UR	UR	140J	UR	UR	140J	0.14J
PA-116B	U	U	U	U	4,300	15,000	6,200	25,500	25.5
PA-117A	U	U	U	U	260,000	57,000	U	317,000	317
PA-117B	U	U	U	U	110,000	17,000	U	127,000	127
PA-118A	U	U	U	U	1,900	U	U	1,900	1.9
PA-118B	UJ	UJ	UJ	UJ	84J	UJ	UJ	84J	0.084J
PA-119A	U	U	U	U	1,400	860	U	2,260	2.26
PA-119B	U	U	U	U	520	180J	U	700J	0.7J
PA-120A	UR	UR	UR	UR	2,300	UR	UR	2,300	2.3
PA-120B	UJ	UJ	UJ	UJ	2,000	580J	UJ	2,580J	2.58J
PA-121A	U	U	U	U	8,700	U	U	8,700	8.7
PA-121B	U	U	U	U	1,900	U	U	1,900	1.9
PA-122A	UJ	UJ	UJ	UJ	3,700	1,200	UJ	4,900	4.9
PA-122B	U	U	U	U	3,500	U	U	3,500	3.5
PA-123A	UR	UR	UR	UR	430J	UR	UR	430J	0.43J
PA-123B	UR	UR	UR	UR	3,300	UR	UR	3,300	3.3
PA-124A	U	U	U	U	390J	U	U	390J	0.39J
PA-124B	U	U	U	U	1,200	700	U	1,900	1.9
PA-125A	U	U	U	U	760	260J	U	1,020J	1.02J
PA-125B	U	U	U	U	87	62	U	149	0.149
PA-126A	U	U	U	U	6,300	4,900	U	11,200	11.2
PA-126B	U	U	U	U	7,200	8,700	U	15,900	15.9
PA-127A	U	U	U	U	700	U	U	700	0.7
PA-127B	UJ	UJ	UJ	UJ	120J	UJ	UJ	120J	0.12J
PA-128A	U	U	U	U	460J	U	U	460J	0.46

ug/kg	Aroclor 1016	Aroclor 1232	Aroclor 1242	Aroclor 1254	Aroclor 1268	Aroclor 1260	Aroclor 1248	Total PCBs (ppb)	Total PCBs (ppm)
PA-128B	UR	UR	UR	UR	89J	UR	UR	89J	0.089J
PA-129A	UJ	UJ	UJ	UJ	45J	UJ	UJ	45J	0.045J
PA-129B	U	U	U	U	5,700	8,400	U	14,100	14.1
PA-130A	U	U	U	U	170J	U	U	170J	0.170J
PA-130B	U	U	U	U	83J	U	U	83J	0.083J
PA-132A	U	U	U	U	U	U	U	--	--
PA-132B	U	U	U	U	640J	U	U	640J	0.64J
PA-133A	UR	UR	UR	UR	UR	UR	UR	--	--
PA-133B	UR	UR	UR	UR	56J	UR	UR	56J	0.056J

J - Estimated value
U - Analyzed for but not detected.
R - QC indicates data unusable. Compound may or may not be present. Resampling and reanalysis is necessary for verification.
* - Excessive holding time.

FIGURE 3-2
ANALYTICAL RESULTS - TOTAL DDT
ANNISTON PCB SITE
ANNISTON, ALABAMA
FEBRUARY 2000

ug/kg	4,4- DDE	4,4-DDD	4,4-DDT	Total DDT (ppb)	Total DDT (ppm)
PA-011A	41J	UJ	73J	114J	0.114J
PA-011B	420NJ	UJ	610NJ	1030NJ	1.03NJ
PA-017B	U	U	160J	160J	0.16J
PA-018A	460	U	860J	1320NJ	1.32NJ
PA-018B	420	U	489NJ	909NJ	0.909NJ
PA-026A	U	U	7.6J	7.6J	0.0076J
PA-026B	9.5	U	39J	48.5J	0.0485J
PA-027A	73NJ	U	UJ	73NJ	0.073NJ
PA-027B	16J	UR	15NJ	31NJ	0.031NJ
PA-030A	86	U	370NJ	456NJ	0.456J
PA-030B	35NJ	U	160NJ	195JN	0.195JN
PA-040B	180J	UR	190J	370J	0.370
PA-340B	UR	UR	12J	12J	0.012J
PA-048B	UJ	UJ	20J	20J	0.020J
PA-049A	UJ	UJ	13J	13J	0.013J
PA-050A	UR	UR	20NJ	20NJ	0.020NJ
PA-350A	19J	U	UJ	19J	0.019J
PA-051A	UJ	77J	2100J	2177J	2.177J
PA-051B	56J	UJ	65NJ	121NJ	0.121NJ
PA-054B	38J	60NJ	55NJ	153NJ	0.153NJ
PA-060B	UJ	9.1NJ	UJ	9.1NJ	0.0091NJ
PA-061A	1.4J	UR	1.4J	2.8J	0.0028J
PA-061B	UJ	UJ	2.8J	2.8J	0.0028J
PA-062A	150J	15J	160J	325J	0.325J
PA-062B	140J	UJ	120J	260J	0.26J
PA-063A	UR	8.9J	UR	8.9J	0.0089J
PA-064B	UJ	9.1J	UJ	9.1J	0.0091J
PA-068A	160J	UJ	320J	480J	0.480J
PA-068B	80J	UJ	97J	177J	0.177J
PA-070A	29J	UJ	83NJ	112NJ	0.112NJ
PA-370A	UR	UR	79NJ	79NJ	0.079NJ

ug/kg	4,4- DDE	4,4-DDD	4,4-DDT	Total DDT (ppb)	Total DDT (ppm)
PA-370B	11J	UJ	UJ	11J	0.011J
PA-080B	99J	UJ	110J	209J	0.209J
PA-081B	UJ	UJ	15J	15J	0.015J
PA-082B	UJ	UJ	540J	540J	0.54J
PA-083A	37JN	UJ	500J	537J	0.537J
PA-083B	UJ	UJ	430J	430J	0.43J
PA-084B	6.2NJ	UJ	UJ	6.2NJ	0.0062NJ
PA-085B	48J	UJ	UJ	48J	0.048J
PA-087A	140	UJ	280	420	0.42
PA-087B	140NJ	UJ	260J	400NJ	0.4NJ
PA-089A	97NJ	UJ	UJ	97NJ	0.097NJ
PA-089B	100J	UJ	140NJ	240NJ	0.24NJ
PA-091B	UJ	UJ	8.9J	8.9J	0.0089J
PA-092A	3J	6.4N	9.9NJ	19.3NJ	0.0193NJ
PA-092B	31J	U	48NJ	79NJ	0.079NJ
PA-097A	6.7J	U	20NJ	26.7NJ	0.0267NJ
PA-097B	180	U	310NJ	490NJ	0.490NJ
PA-099A	13NJ	UJ	58J	71NJ	0.071NJ
PA-099B	7.9NJ	UJ	UJ	7.9NJ	0.0079NJ
PA-100A	UR	UR	8J	8J	0.008J
PA-100B	U	U	27NJ	27NJ	0.027NJ
PA-101B	2.3JN	26J	UR	28.3JN	0.0283JN
PA-113A	UR	UR	43J	43J	0.043J
PA-115A	UR	UR	6.2NJ	6.2NJ	0.0062NJ
PA-315AA	3.7NJ	UJ	UJ	3.7NJ	0.0037NJ
PA-115B	25J	UR	60NJ	85NJ	0.085NJ
PA-116A	UR	UR	6.1NJ	6.1NJ	0.0061NJ
PA-118A	U	U	26J	26J	0.026J
PA-118B	UJ	UJ	5J	5J	0.005J
PA-119A	U	U	39J	39J	0.039J
PA-119B	74J	17J	43NJ	134NJ	0.134NJ
PA-120A	1100J	UR	1100J	2200J	2.2J
PA-120B	170	UJ	170J	340J	0.340J
PA-121A	790	U	710J	1500J	1.5J
PA-121B	110	U	79J	189J	0.189J
PA-122A	240	UJ	270N	510N	0.510N

ug/kg	4,4- DDE	4,4-DDD	4,4-DDT	Total DDT (ppb)	Total DDT (ppm)
PA-122B	1700	U	2700J	4400J	4.4J
PA-123A	20J	UR	23NJ	43NJ	0.043NJ
PA-123B	96	UR	130J	226J	0.226J
PA-124A	15J	U	27NJ	42NJ	0.042NJ
PA-124B	U	U	160J	160J	0.16J
PA-125A	15NJ	U	62J	77J	0.077J
PA-125B	U	U	12NJ	12NJ	0.012NJ
PA-126A	140N	U	1100J	1240NJ	1.24NJ
PA-126B	290N	U	2200J	2490NJ	2.49NJ
PA-127A	21J	U	47NJ	68J	0.068J
PA-127B	9.6J	UJ	9.2J	18.8J	0.018J
PA-128A	38J	U	39NJ	77NJ	0.077NJ
PA-128B	UR	UR	6.5J	6.5J	0.0065J
PA-129B	100N	U	710J	810JN	0.81JN
PA-130B	21J	U	8.3NJ	29.3NJ	0.0293NJ
PA-132A	480N	U	600NJ	1080NJ	1.08NJ
PA-132B	2.8J	U	11N	13.8J	0.0138J
PA-133B	UR	UR	3.0JN	3.0JN	0.003JN

J - Estimated value
U - Analyzed for but not detected.
R - QC indicates data unusable. Compound may or may not be present. Resampling and reanalysis is necessary for verification.

FIGURE 3-3
ANALYTICAL RESULTS - PESTICIDES
ANNISTON PCB SITE
ANNISTON, ALABAMA
FEBRUARY 2000

ug/kg	Heptachlor	Aldrin	Heptachlor Epoxide	Dieldrin	Endosulfan II (beta)	Endrin Ketone	Endrin Aldehyde	Endrin	Alpha-Chlordane	Gamma-Chlordane
PA-005A	U	U	U	U	UJ	UR	UR	U	U	4.4
PA-008B	U	U	U	U	42NJ	UR	UR	U	U	U
PA-011A	U	U	U	2.9JN	UJ	UR	UR	6.2J	U	1.7JN
PA-011B	U	U	U	22JN	UJ	UR	UR	U	U	850
PA-017A	U	3.5J	U	U	U	UR	11NJ	U	U	U
PA-017B	U	U	12J	150	U	UR	21J	U	U	13JN
PA-018A	U	U	U	490	U	UR	UR	U	590N	570
PA-018B	U	U	46	240	U	UR	32J	U	U	210
PA-027A	U	U	39J	U	U	UR	UR	U	U	39J
PA-027B	UR	UR	2.1J	UR	3.0J	UR	UR	U	UR	2.2NJ
PA-030A	U	U	U	U	UJ	UR	42J	UJ	U	170
PA-030B	15J	U	U	U	U	UR	UR	U	300	270
PA-040B	2.1J	UR	UR	UR	UR	UR	3.9NJ	U	UR	54NJ
PA-340B	UR	UR	UR	UR	UR	UR	1.2J	U	4.1J	UR
PA-350A	U	U	U	U	U	UR	3.7JN	1.4J	U	U
PA-051A	U	U	U	U	UJ	UR	UR	U	44N	36
PA-051B	U	U	U	U	U	UR	UR	U	5.3J	2.6NJ
PA-054A	U	U	U	U	U	UR	UR	U	U	94
PA-054B	U	U	U	U	UJ	UR	UR	U	U	7.6NJ
PA-060B	U	U	1.2J	U	U	UR	UR	U	U	2.8
PA-062A	UJ	UJ	1.3JN	UJ	UJ	UR	UR	U	2.9J	9NJ
PA-062B	U	U	2.1J	1J	UJ	UR	UR	U	U	5.8J
PA-064A	UR	UR	UR	UR	UR	UR	UR	U	UR	3.2J
PA-068A	U	U	U	U	U	UR	UR	U	1.8J	U
PA-370A	UR	UR	UR	UR	UR	UR	UR	U	UR	2.8NJ
PA-070B	U	U	U	U	UJ	UR	UR	U	U	4J
PA-370B	U	U	U	U	UJ	UR	UR	U	U	1.4J
PA-080B	U	U	U	U	UJ	UR	UR	U	U	U
PA-087A	UJ	UJ	6.1J	44J	UJ	UR	UR	U	36NJ	26J
PA-087B	U	U	3.9NJ	U	UJ	UR	UR	U	U	30NJ

PA-088B	U	U	U	39NJ	UJ	UR	UR	U	U	U
PA-089A	7.2NJ	UJ	38J	UJ	UJ	UR	UR	U	UJ	130
PA-089B	UJ	UJ	5.4J	UJ	UJ	UR	5.1J	U	UJ	17NJ
PA-090A	U	U	4.4NJ	U	UJ	UR	UR	U	U	46J
PA-091A	U	U	U	14J	UJ	UR	UR	7.6J	U	6.4J
PA-091B	U	U	U	4.8J	UJ	UR	UR	U	U	U
PA-092B	U	U	7.2J	U	UJ	UR	UR	U	U	23NJ
PA-099B	U	U	U	U	UJ	UR	UR	U	U	12J
PA-101B	UR	UR	UR	UR	UR	UR	UR	U	UR	1.7JN
PA-113A	UR	UR	UR	UR	UR	12J	UR	U	UR	UR
PA-113B	U	U	U	U	UJ	UR	14J	U	U	U
PA-115B	UR	UR	UR	14NJ*	UR	UR	UR	U	UR	UR
PA-119B	U	U	3.3J	U	UJ	UR	UR	U	U	4.6NJ
PA-120A	UR	UR	UR	UR	UR	UR	UR	U	UR	12J
PA-121A	U	U	U	U	UJ	UR	UR	U	U	2JN
PA-122B	U	U	U	U	UJ	UR	UR	U	66N	28N
PA-125B	U	U	U	U	UJ	UR	UR	U	6.8N	12N
PA-128A	U	U	U	11J	UJ	UR	UR	U	U	2.2NJ
PA-128B	UR	UR	UR	3J	UR	UR	UR	U	3.4NJ	2.4J
PA-132A	460	U	380	300	UJ	UR	UR	U	U	1800
PA-132B	U	2.1J	1.1J	U	UJ	UR	UR	U	U	U
PA-133B	UR	UR	UR	UR	UR	UR	UR	U	UR	1.4J

J - Estimated value
U - Analyzed for but not detected.
R - QC indicates data unusable. Compound may or may not be present. Resampling and reanalysis is necessary for verification.
* - Excessive holding time.

TABLE 3-4
ANALYTICAL RESULTS - VOLATILE ORGANIC COMPOUNDS
ANNISTON PCB SITE
ANNISTON, ALABAMA
FEBRUARY 2000

mg/kg	PA-056A	PA-057A	PA-063A	PA-064A	PA-101B	PA-113A	PA-114A	PA-115A	PA-315A	PA-116A	PA-BAK
Acetone	70J	39J	87J	16J	100J	42J	36J	78J	110J	100J	270J
Methyl Butyl Ketone	U	62	36J	U	U	98J	24	28	44	88	82
Bromomethane	U	U	U	U	26	U	U	U	U	U	U
Carbon Disulfide	U	U	U	U	U	U	21	U	U	U	U

Miscellaneous VOCs not reported in Table. See Appendix A.

TABLE 3-5
ANALYTICAL RESULTS - METALS
ANNISTON PCB SITE
ANNISTON, ALABAMA
FEBRUARY 2000

mg/kg	PA-056A	PA-057A	PA-063A	PA-064A	PA-101B	PA-113A	PA-114A	PA-115A	PA-315AA	PA-116A	PA-BAK
Aluminum	990J	3000J	5000J	5100J	8500J	6000J	8500J	7900J	7200J	7600J	5400J
Antimony	1.0UR	0.94UR	0.89UR	0.84UR	7.3J	0.84UR	0.87UR	0.98UR	0.97UR	0.91UR	–
Arsenic	–	1.2J	15J	12J	11J	6.6J	4.5J	5.5J	4.9J	6.6J	11J
Barium	7.8J	5.9J	52J	36J	150J	8.3J	110J	75J	73J	110J	74J
Beryllium	–	–	0.38J	0.23J	0.35J	0.14J	1.2J	0.58J	0.55J	0.93J	1.1J
Cadmium	–	–	–	–	1.0J	–	–	–	–	–	–
Calcium	1300	2400	1300	2300	34000	210	4600	2700	2400	4200	200
Chromium	3.7J	5.3J	15J	16J	93J	15J	20J	14J	14J	16J	9.2J
Cobalt	–	–	4.7J	2.1J	32J	1.5J	9.6J	6.2J	6.4J	6.4J	23J
Copper	4.7J	4.9J	26J	12J	400J	9.4J	15J	30J	29J	22J	36J
Iron	1700J	3500J	13000J	14000J	37000J	24000J	30000J	16000J	16000J	21000J	29000J
Lead	9.6J	2.0J	170J	32J	1000JN	7.3J	34J	120J	110J	45J	25J
Magnesium	140J	260J	340J	460J	20000J	220J	1100J	830J	720J	650J	190J
Manganese	24J	9.7J	330J	100J	1200J	14J	560J	390J	440J	400J	840J
Total Mercury	–	–	–	–	0.54	–	–	0.13	0.09U	–	–
Nickel	0.92J	1.2J	10J	5.2J	150J	2.2J	12J	11J	12J	12J	31J
Potassium	73	150	510	210	440	510	1100	940	720	2000	430
Selenium	–	–	–	–	–	–	1.2J	0.81J	–	–	–
Silver	–	–	–	0.96J	1.1J	–	0.90J	–	–	0.56J	–
Vanadium	7.0J	10J	22J	39J	35J	35J	22J	17J	16J	20J	37J
Zinc	10J	7.3J	190J	38J	2800J	10J	200J	180J	180J	78J	94J

Footnotes:
R - QC indicates that data unusable. Compound may or may not be present.
U - Material analyzed for but not detected. The number is the minimum quantitation limit.
J - Estimated.
– - Analyzed for but not detected.
PA-BAK is background sample
Station 315AA was a split of Station 115A

TABLE 3-6
ANALYTICAL RESULTS - DIOXINS/FURANS
ANNISTON PCB SITE
ANNISTON, ALABAMA
FEBRUARY 2000

ng/kg (ppt)	D001 (background)	D013A	D013B	D020	D021 (Split of D020)	D022	D025	D027	D031	D033
2,3,7,8,-Tetrachlorodibenzodioxin	–	–	–	–	–	–	–	–	–	–
Tetrachlorodibenzodioxin (total)	–	9.3J	7.6J	–	–	–	–	11J	–	–
1,2,3,7,8,-Pentachlorodibenzodioxin	–	–	–	–	–	–	–	–	–	–
Pentachlorodibenzodioxin (total)	–	–	–	–	–	–	–	–	–	–
1,2,3,4,7,8-Hexachlorodibenzodioxin	–	–	–	–	–	–	–	–	–	–
1,2,3,6,7,8-Hexachlorodibenzodioxin	–	–	–	–	–	–	–	–	–	–
1,2,3,7,8, 9-Hexachlorodibenzodioxin	–	–	–	–	–	–	–	–	–	–
Hexachlorodibenzodioxin (total)	–	44J	–	20UJ	15J	–	–	–	–	–
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	–	88	56	48	41	65	260	53	140	–
Heptachlorodibenzodioxin (total)	–	180J	120J	97J	81J	130J	530J	100J	280J	–
Octachlorodibenzodioxin	460	1400	890	1000	930	1500	3500	420	3300	120
2,3,7,8,-Tetrachlorodibenzofuran	–	–	–	12	12	–	–	–	–	–
Tetrachlorodibenzofuran (total)	–	30J	26J	68J	64J	380J	41J	110J	220J	–
1,2,3,7,8,-Pentachlorodibenzofuran	–	–	–	–	–	–	–	–	–	–
2,3,4,7,8,-Pentachlorodibenzofuran	–	–	–	–	–	–	–	–	–	–
Pentachlorodibenzofuran (total)	–	36J	–	65J	88J	270J	68J	100J	230J	–
1,2,3,4,7,8-Hexachlorodibenzofuran	–	–	–	18J	18J	26J	–	26J	18J	–
1,2,3,6,7,8-Hexachlorodibenzofuran	–	–	–	–	–	34	–	–	16	–
1,2,3,7,8, 9-Hexachlorodibenzofuran	–	–	–	–	–	–	–	–	–	–
2,3,4,6,7,8-Hexachlorodibenzofuran	–	–	–	–	–	–	–	–	–	–
Hexachlorodibenzofuran (total)	–	–	–	83J	85J	170J	–	90J	140J	–
1,2,3,4,6,7,8-Heptachlorodibenzofuran	–	23	–	68	64	170	–	55	59	–
1,2,3,4,7,8,9-Heptachlorodibenzofuran	–	–	–	–	–	–	–	–	–	–
Heptachlorodibenzofuran (total)	–	51J	–	110J	110J	280J	98J	110J	130J	–
Octachlorodibenzofuran	–	–	–	52J	50J	210J	110J	59J	110J	–
TEQ (Toxic equiv. value)	0.46	2.5	1.4	4.0J	5.0J	10J	6.2	4.2J	8.8J	0.12

U - Not detected. The number is the minimum quantitation limit.
J - Estimated value

TABLE 3-6 (Continued)
ANALYTICAL RESULTS - DIOXINS/FURANS
ANNISTON PCB SITE
ANNISTON, ALABAMA
FEBRUARY 2000

ng/kg (ppt)	D034	D035	D036	D037	D038	D039	D042	D101B	D113A	D116A
2,3,7,8,-Tetrachlorodibenzodioxin	-	-	-	-	-	-	0.53J	1.9J	-	-
Tetrachlorodibenzodioxin (total)	-	-	7.4J	-	-	9.2J	24J	75J	-	-
1,2,3,7,8,-Pentachlorodibenzodioxin	-	-	-	-	-	-	3.9J	4.9J	-	-
Pentachlorodibenzodioxin (total)	-	-	16J	-	8.9J	16J	31J	61J	-	-
1,2,3,4,7,8-Hexachlorodibenzodioxin	-	-	2.9J	1.7J	1.5J	3.2J	5.2	4.9J	-	-
1,2,3,6,7,8-Hexachlorodibenzodioxin	-	-	7.8	-	-	6.8	13	19	-	-
1,2,3,7,8, 9-Hexachlorodibenzodioxin	-	-	7.8	-	5.1	8.6	17	18	-	-
Hexachlorodibenzodioxin (total)	74J	-	55J	22J	40J	75J	190J	250J	-	-
1,2,3,4,6,7,8-Heptachlorodibenzodioxin	170	180	140	53	94	100	300	380	34	-
Heptachlorodibenzodioxin (total)	380J	370J	280J	130J	220J	240J	750J	1000J	84J	-
Octachlorodibenzodioxin	4600	2000	3600	2200	3200	570	4300	3200	930	700
2,3,7,8,-Tetrachlorodibenzofuran	-	-	-	-	-	-	78	55	-	-
Tetrachlorodibenzofuran (total)	190J	380J	91J	26J	30J	61J	710J	450J	200J	-
1,2,3,7,8,-Pentachlorodibenzofuran	-	-	4.6J	-	-	-	26	18	7.9	-
2,3,4,7,8,-Pentachlorodibenzofuran	-	-	6.2	-	-	-	86	33	5.2	-
Pentachlorodibenzofuran (total)	250J	520J	120J	28J	47J	47J	690J	310J	260J	-
1,2,3,4,7,8-Hexachlorodibenzofuran	54J	-	-	-	-	9.0J	120J	66J	34J	-
1,2,3,6,7,8-Hexachlorodibenzofuran	36	34	15	-	-	-	41	24	56	-
1,2,3,7,8, 9-Hexachlorodibenzofuran	-	-	-	0.62J	-	-	9.1	2.1J	-	-
2,3,4,6,7,8-Hexachlorodibenzofuran	-	33	7.8	-	-	-	32	25	8.2	-
Hexachlorodibenzofuran (total)	290J	390J	100J	-	37J	47J	450J	280J	240J	-
1,2,3,4,6,7,8-Heptachlorodibenzofuran	260	380	91	-	17	30	260	130	360	-
1,2,3,4,7,8,9-Heptachlorodibenzofuran	-	32	7.4	0.98J	0.93J	2.3J	48	16	23	-
Heptachlorodibenzofuran (total)	450J	760J	190J	-	45J	73J	560J	260J	620J	-
Octachlorodibenzofuran	440J	910J	120J	12J	24J	26J	430J	140J	590J	-
TEQ (Toxic equiv. value)	18J	16	14	3.0	5.0	4.7	89J	52J	18J	0.7

J - Estimated value.

TABLE 3-7 BNAs

ANALYTE (UG/KG)	PA005ASF	PA008ASF	PA008BSF	PA011ASF	PA011BSF	PA015ASF	PA015BSF	PA017ASF
% MOISTURE	24	18	16	15	20	26	22	17
2-METHYLNAPHTHALENE	U	U	U	UJ	U	U	130 J	U
ANTHRACENE	U	U	U	UJ	U	U	230 J	U
BENZALDEHYDE	UJ	U	U	UJ	U	200 J	UJ	UJ
BENZO(A)ANTHRACENE	U	160 J	100 J	UJ	300 J	200 J	910	U
BENZO(B)FLUORANTHENE	U	190 J	140 J	81 J	370 J	260 J	970	96 J
BENZO(GHI)PERYLENE	U	210 J	130 J	UJ	180 J	150 J	300 J	U
BENZO(K)FLUORANTHENE	U	230 J	120 J	UJ	300 J	190 J	760	83 J
BENZO-A-PYRENE	U	180 J	94 J	UJ	290 J	220 J	820	U
BIS(2-ETHYLHEXYL) PHTHALATE	690	U	U	UJ	U	560	3100	U
CARBAZOLE	UJ	UJ	U	UJ	260 J	UJ	390 J	U
CHRYSENE	U	320 J	170 J	UJ	380 J	240 J	900	130 J
DIBENZO(A,H)ANTHRACENE	UJ	UJ	UJ	UJ	UJ	UJ	120 J	UJ
DIBENZOFURAN	U	U	U	UJ	U	U	96 J	U
FLUORANTHENE	170 J	390 J	230 J	140 J	700	300 J	1900	150 J
FLUORENE	U	U	U	UJ	U	U	130 J	U
INDENO (1,2,3-CD) PYRENE	U	200 J	100 J	UJ	190 J	160 J	430	U
NAPHTHALENE	U	U	U	UJ	U	U	91 J	U
PHENANTHRENE	U	150 J	U	82 J	280 J	110 J	1300	U
PYRENE	140 J	230 J	170 J	98 J	430	260 J	1400	100 J

	PA017BSF	PA018ASF	PA027BSF	PA030ASF	PA030BSF	PA040ASF	PA040BSF	PA046ASF
% MOISTURE	13	15	17	23	19	25	15	24
(3-AND/OR 4-)METHYLPHENOL	U	U	U	U	U	U	U	110 J
ANTHRACENE	U	U	U	U	U	U	U	65 J
BENZALDEHYDE	UJ	U	U	U	U	UJ	UJ	60 J
BENZO(A)ANTHRACENE	U	280 J	U	U	170 J	61 J	280 J	240 J
BENZO(B)FLUORANTHENE	U	320 J	U	120 J	180 J	90 J	310 J	260 J
BENZO(GHI)PERYLENE	U	UJ	U	U	U	U	U	130 J
BENZO(K)FLUORANTHENE	U	360 J	U	150 J	180 J	69 J	260 J	230 J
BENZO-A-PYRENE	U	270 J	U	U	130 J	U	110 J	210 J
BIS(2-ETHYLHEXYL) PHTHALATE	U	U	4200	U	490	820	U	U
CHRYSENE	U	380 J	U	130 J	190 J	75 J	320 J	290 J
DIBENZO(A,H)ANTHRACENE	UJ	UJ	U	UJ	UJ	UJ	41 J	UJ
FLUORANTHENE	130 J	540	81 J	160 J	320 J	120 J	420	460
INDENO (1,2,3-CD) PYRENE	U	240 J	U	U	140 J	U	79 J	160 J
PHENANTHRENE	U	180 J	U	U	U	U	160 J	240 J
PYRENE	U	420	U	120 J	160 J	81 J	230 J	420 J

U - not detected J - Estimated

	PA047ASF	PA047BSF	PA048BSF	PA050ASF	PA050BSF	PA051ASF	PA051BSF	PA054ASF
% MOISTURE	23	17	36	14	14	27	18	15
ACENAPHTHYLENE	U	U	U	U	U	92 J	U	U
ANTHRACENE	U	160 J	U	U	U	270 J	210 J	140 J
BENZO(A)ANTHRACENE	U	520	400 J	U	100 J	1200	1400	1200
BENZO(B)FLUORANTHENE	U	360 J	350 J	100 J	200 J	1200	1300	870
BENZO(GHI)PERYLENE	U	130 J	330 J	U	150 J	430 J	410	900
BENZO(K)FLUORANTHENE	U	340 J	380 J	120 J	U	1100	1300	1500
BENZO-A-PYRENE	U	330 J	320 J	U	110 J	980	1200	1000
BIS(2-ETHYLHEXYL) PHTHALATE	440	U	U	U	4600	670	U	U
CARBAZOLE	UJ	97 J	UJ	U	UJ	120 J	110 J	140 J
CHRYSENE	U	490	450 J	U	170 J	1300	1500	1300
DIBENZO(A,H)ANTHRACENE	UJ	47 J	UJ	UJ	UJ	140 J	160 J	330 J
FLUORANTHENE	U	1300	730	230 J	370 J	2300	2600	2400
INDENO (1,2,3-CD) PYRENE	U	160 J	230 J	U	110 J	500	560	780
PHENANTHRENE	U	520	280 J	130 J	210 J	660	650	670
PYRENE	U	860	550	140 J	210 J	1800	2200	1600

	PA054BSF	PA056BSF	PA060BSF	PA061ASF	PA061BSF	PA062ASF	PA062BSF	PA063ASF
% MOISTURE	19	18	10	9	15	22	22	19
ACENAPHTHENE	130 J	120 J	U	U	U	U	U	U
ANTHRACENE	210 J	320 J	U	U	U	U	U	U
BENZO(A)ANTHRACENE	900	1200	U	U	U	U	220 J	140 J
BENZO(B)FLUORANTHENE	790	1200	U	U	U	U	210 J	200 J
BENZO(GHI)PERYLENE	650	600 J	U	U	U	U	120 J	U
BENZO(K)FLUORANTHENE	800	1100	U	U	U	U	210 J	160 J
BENZO-A-PYRENE	690	1100	U	U	U	U	230 J	160 J
BIS(2-ETHYLHEXYL) PHTHALATE	U	U	U	940	450	690	U	U
CARBAZOLE	240 J	380 J	UJ	UJ	UJ	UJ	55 J	U
CHRYSENE	910	1500	U	U	U	U	240 J	170 J
DIBENZO(A,H)ANTHRACENE	230 J	410 J	UJ	U	U	U	UJ	UJ
FLUORANTHENE	1900	3000	U	U	U	U	500	370 J
FLUORENE	U	110 J	U	U	U	U	U	U
INDENO (1,2,3-CD) PYRENE	520	1100	U	U	U	U	170 J	100 J
PHENANTHRENE	980	1700	U	U	U	U	220 J	140 J
PYRENE	1300	2000	U	U	U	U	430	250 J

U - not detected

J - Estimated

	PA063BSF	PA064BSF	PA065ASF	PA066ASF	PA066BSF	PA067ASF	PA067BSF	PA068ASF
% MOISTURE	18	15	23	22	27	17	27	21
1,2,4-TRICHLOROBENZENE	NA	NA	NA	NA	NA	140 J	NA	NA
1,3-DICHLOROBENZENE	NA	NA	NA	NA	NA	130 J	NA	NA
1,4-DICHLOROBENZENE	NA	NA	NA	NA	NA	120 J	NA	NA
ACENAPHTHENE	U	U	U	U	U	U	U	93 J
ANTHRACENE	U	U	U	U	U	U	U	260 J
BENZO(A)ANTHRACENE	91 J	U	90 J	250 J	260 J	120 J	130 J	1300
BENZO(B)FLUORANTHENE	120 J	U	120 J	280 J	280 J	190 J	300 J	1400
BENZO(GHI)PERYLENE	U	U	U	U	U	190 J	130 J	730
BENZO(K)FLUORANTHENE	99 J	U	110 J	310 J	300 J	160 J	290 J	1300
BENZO-A-PYRENE	U	U	92 J	250 J	270 J	130 J	150 J	1300
CARBAZOLE	UJ	UJ	UJ	UJ	UJ	UJ	UJ	1000 J
CHRYSENE	120 J	U	110 J	310 J	320 J	190 J	260 J	1400
DIBENZO(A,H)ANTHRACENE	UJ	UJ	U	UJ	UJ	U	UJ	210 J
FLUORANTHENE	190 J	U	120 J	470	430 J	230 J	180 J	2400
FLUORENE	U	U	U	U	U	U	U	93 J
INDENO (1,2,3-CD) PYRENE	U	U	U	200 J	220 J	120 J	120 J	800
PHENANTHRENE	U	U	U	220 J	170 J	120 J	U	1400
PYRENE	130 J	U	110 J	360 J	310 J	180 J	220 J	2400

U - not detected

J - Estimated

	PA068BSF	PA070ASF	PA070BSF	PA080BSF	PA081ASF	PA081BSF	PA082ASF	PA082BSF
% MOISTURE	22	20	15	15	21	23	15	18
(3-AND/OR 4-)METHYLPHENOL	U	U	U	87 J	U	U	U	U
2-METHYLNAPHTHALENE	U	U	U	120 J	U	U	U	U
ACENAPHTHENE	U	U	U	U	U	U	U	1900 J
ACENAPHTHYLENE	95 J	U	U	160 J	U	U	96 J	2100
ANTHRACENE	220 J	U	U	260 J	U	U	470	6600
BENZALDEHYDE	U	U	U	U	600	UJ	U	U
BENZO(A)ANTHRACENE	1200	270 J	82 J	700	U	U	2000	29000
BENZO(B)FLUORANTHENE	1500	340 J	100 J	630	98 J	99 J	1800	22000
BENZO(GHI)PERYLENE	710	U	91 J	330 J	U	U	780	8800
BENZO(K)FLUORANTHENE	1100	290 J	87 J	570	92 J	U	1400	16000
BENZO-A-PYRENE	1300	280 J	100 J	630	U	U	1400	20000
CARBAZOLE	420 J	150 J	UJ	1500 J	120 J	UJ	380 J	2500 J
CHRYSENE	1300	380 J	120 J	710	130 J	97 J	2100	28000
DIBENZO(A,H)ANTHRACENE	210 J	UJ	UJ	110 J	UJ	UJ	270 J	2900 J
DIBENZOFURAN	U	U	U	130 J	U	U	U	730 J
FLUORANTHENE	2200	600	140 J	1600	270 J	160 J	8900	67000
FLUORENE	U	U	U	220 J	U	U	160 J	3800
INDENO (1,2,3-CD) PYRENE	U	190 J	U	380 J	U	U	960	12000
NAPHTHALENE	U	U	U	180 J	U	U	U	U
PHENANTHRENE	940	230 J	U	1400	220 J	U	1800	48000
PYRENE	1800	390 J	99 J	910	180 J	110 J	5300	53000

U - not detected

J - Estimated

	PA083ASF	PA083BSF	PA084ASF	PA085ASF	PA085BSF	PA087ASF	PA087BSF	PA088BSF
% MOISTURE	14	21	18	22	19	18	24	22
ACENAPHTHYLENE	390 J	220 J	U	100 J	89 J	U	U	U
ANTHRACENE	970 J	370 J	120 J	230 J	180 J	U	U	U
BENZALDEHYDE	U	130 J	UJ	UJ	UJ	UJ	UJ	UJ
BENZO(A)ANTHRACENE	4200	2000	650	1200	740	220 J	220 J	U
BENZO(B)FLUORANTHENE	4000	1800	610	1600	900	270 J	360 J	88 J
BENZO(GHI)PERYLENE	1700	710	300 J	590	400 J	180 J	U	U
BENZO(K)FLUORANTHENE	3600.	1600	490	1100	660	210 J	200 J	U
BENZO-A-PYRENE	3500	1700	540	1200	670	210 J	170 J	U
BENZYL BUTYL PHTHALATE	U	U	U	U	U	1700	2200	U
BIS(2-ETHYLHEXYL) PHTHALATE	U	U	U	U	U	610	860	U
CARBAZOLE	490 J	430 J	UJ	260 J	120 J	U	U	U
CHRYSENE	4300	2000	640	1300	780	270 J	270 J	99 J
DIBENZO(A,H)ANTHRACENE	570 J	260 J	87 J	210 J	160 J	UJ	UJ	UJ
FLUORANTHENE	7800	5900	1500	2700	1500	490	510	130 J
FLUORENE	330 J	120 J	U	89 J	U	U	U	U
INDENO (1,2,3-CD) PYRENE	2200	990	350 J	740	520	160 J	130 J	U
NAPHTHALENE	U	U	U	U	89 J	U	U	U
PHENANTHRENE	4300	1600	600	1100	610	200 J	270 J	U
PYRENE	6900	2800	1100	1800	1200	350 J	310 J	92 J

	PA089ASF	PA089BSF	PA090ASF	PA090BSF	PA092ASF	PA092BSF	PA097ASF	PA097BSF
% MOISTURE	35	22	27	22	44	20	24	26
2,4-DICHLOROPHENOL	U	120 J	U	U	U	UR	U	U
2-METHYLNAPHTHALENE	U	180 J	U	U	U	UR	U	180 J
ANTHRACENE	U	U	U	U	130 J	UR	1100 J	U
BENZO(A)ANTHRACENE	360 J	260 J	210 J	240 J	560 J	140 J	2800	670
BENZO(B)FLUORANTHENE	470 J	430	270 J	260 J	660	130 J	2100 J	940
BENZO(GHI)PERYLENE	210 J	270 J	140 J	140 J	U	UR	U	240 J
BENZO(K)FLUORANTHENE	340 J	300 J	250 J	230 J	400 J	120 J	2200 J	700
BENZO-A-PYRENE	370 J	260 J	240 J	240 J	230 J	110 J	1200 J	690
BIS(2-ETHYLHEXYL) PHTHALATE	1200	470	U	U	U	UR	U	450
CARBAZOLE	U	U	100 J	160 J	U	UR	U	U
CHRYSENE	420 J	340 J	350 J	300 J	570 J	140 J	2800	790
DIBENZO(A,H)ANTHRACENE	UJ	UJ	UJ	UJ	UJ	UR	UJ	280 J
FLUORANTHENE	690	470	460	530	1100	280 J	8100	1100
INDENO (1,2,3-CD) PYRENE	250 J	240 J	170 J	160 J	170 J	98 J	1300 J	620
PHENANTHRENE	340 J	240 J	140 J	220 J	410 J	100 J	5400	310 J
PYRENE	470 J	410 J	310 J	330 J	650	200 J	5300 J	790 J

U - not detected

	PA099ASF	PA099BSF	PA100ASF	PA100BSF	PA101ASF	PA101BSF	PA103ASF	PA103BSF
% MOISTURE	20	17	20	13	19	20	20	20
2-METHYLNAPHTHALENE	U	U	U	190 J	64000 J	9600 J	U	490
4-NITROPHENOL	U	U	UJ	UJ	U	8500 J	U	U
ACENAPHTHENE	U	U	U	280 J	130000 J	64000	U	4200
ACENAPHTHYLENE	U	U	U	U	33000 J	15000 J	U	210 J
ANTHRACENE	U	U	360 J	1100	210000	140000	U	5200
BENZO(A)ANTHRACENE	U	U	2400	3600	410000	540000	240 J	10000
BENZO(B)FLUORANTHENE	U	U	1800	2300	290000	370000 J	290 J	9500
BENZO(GHI)PERYLENE	U	U	1000	1500	U	83000	180 J	1100
BENZO(K)FLUORANTHENE	U	U	1500	2200	160000	220000	280 J	4600
BENZO-A-PYRENE	U	U	1500	2100	81000 J	280000	260 J	13000
BENZYL BUTYL PHTHALATE	U	540	U	U	U	U	U	U
BIS(2-ETHYLHEXYL) PHTHALATE	740	1500	U	U	U	U	U	U
CARBAZOLE	U	U	U	810	54000 J	25000	120 J	3800 J
CHRYSENE	U	U	2100	2900	260000	290000	310 J	11000
DIBENZO(A,H)ANTHRACENE	UJ	UJ	540 J	760 J	35000 J	30000 J	UJ	1700 J
DIBENZOFURAN	U	U	U	390	110000 J	39000	U	1300
FLUORANTHENE	93 J	U	4400	8000	1200000	1500000	490	46000
FLUORENE	U	U	140 J	840	320000	130000	U	1300
INDENO (1,2,3-CD) PYRENE	U	U	1100	1400	69000 J	110000	210 J	7500
NAPHTHALENE	U	U	U	230 J	55000 J	5600 J	U	1400
PHENANTHRENE	U	U	1600	6000	1200000	1200000	210 J	44000
PYRENE	U	U	3100	5700	310000	1000000	370 J	45000

U - not detected

J - estimated

	PA113ASF	PA113BSF	PA114BSF	PA115ASF	PA115BSF	PA116ASF	PA116BSF	PA117ASF
% MOISTURE	14	16	26	27	21	20	16	33
1,1-BIPHENYL	U	U	U	U	U	U	U	200 J
2-METHYLNAPHTHALENE	U	U	130 J	U	U	U	U	U
ACENAPHTHYLENE	U	U	U	U	U	U	140 J	230 J
ANTHRACENE	U	140 J	220 J	U	U	U	230 J	380 J
BENZO(A)ANTHRACENE	U	720	710	420 J	310 J	74 J	890	1400
BENZO(B)FLUORANTHENE	U	620	680	520	530	130 J	1000	4200
BENZO(GHI)PERYLENE	810	650 J	320 J	97 J	U	U	280 J	780 J
BENZO(K)FLUORANTHENE	U	640	630	410 J	370 J	98 J	790	U
BENZO-A-PYRENE	63 J	600	620	380 J	150 J	92 J	890	1600
CARBAZOLE	U	UJ	330 J	U	UJ	U	200 J	480 J
CHRYSENE	U	780	740	460	420	110 J	900	1500
DIBENZO(A,H)ANTHRACENE	UJ	220 J	140 J	74 J	UJ	UJ	180 J	370 J
FLUORANTHENE	U	1400	1400	910	590	130 J	1900	3500
FLUORENE	U	U	U	U	U	U	U	250 J
INDENO (1,2,3-CD) PYRENE	790	510	420 J	230 J	140 J	70 J	650	1100
NAPHTHALENE	U	U	97 J	U	U	U	U	230 J
PHENANTHRENE	U	720	1000	260 J	160 J	U	710	2200
PYRENE	U	940	1100	690	380 J	120 J	1400	2300

U - not detected

J - Estimated

	PA117BSF	PA118ASF	PA119ASF	PA119BSF	PA120ASF	PA121ASF	PA121BSF	PA122ASF
% MOISTURE	20	25	24	8	27	9	7	16
2-METHYLNAPHTHALENE	380 J	U	U	U	U	U	U	U
ACENAPHTHYLENE	270 J	U	U	U	U	U	U	U
ANTHRACENE	410 J	U	U	U	120 J	U	U	U
BENZALDEHYDE	U	UJ	170 J	U	UJ	UJ	UJ	UJ
BENZO(A)ANTHRACENE	1700	410 J	240 J	77 J	690	500 J	170 J	2000
BENZO(B)FLUORANTHENE	3900	270 J	280 J	74 J	960	540 J	190 J	1700
BENZO(GHI)PERYLENE	860.	U	U	U	350 J	U	U	U
BENZO(K)FLUORANTHENE	1200	260 J	250 J	U	740	550 J	210 J	1300
BENZO-A-PYRENE	2600	U	140 J	U	740	U	U	U
BIS(2-ETHYLHEXYL) PHTHALATE	U	U	U	U	1700	U	U	U
CARBAZOLE	580 J	U	U	U	160 J	U	U	U
CHRYSENE	1900	310 J	270 J	81 J	830	590 J	230 J	1800
DIBENZO(A,H)ANTHRACENE	450 J	UJ	UJ	UJ	150 J	UJ	UJ	490 J
DIBENZOFURAN	280 J	U	U	U	U	U	U	U
FLUORANTHENE	3800	690	540	160 J	1400	1100 J	360	3500
FLUORENE	290 J	U	U	U	U	U	U	U
INDENO (1,2,3-CD) PYRENE	1200	U	120 J	U	490	U	U	410 J
NAPHTHALENE	770 J	U	U	U	U	U	U	U
PHENANTHRENE	3000	290 J	220 J	91 J	430 J	U	150 J	1300
PYRENE	2600	130 J	300 J	90 J	1100	UJ	170 J	640 J

U - not detected

J - Estimated

	PA122BSF	PA123ASF	PA124ASF	PA124BSF	PA125ASF	PA125BSF	PA126ASF	PA126BSF
% MOISTURE	27	22	11	28	20	25	20	26
2-METHYLNAPHTHALENE	UJ	U	UJ	U	U	U	U	890
ACENAPHTHYLENE	UJ	U	300 J	150 J	U	U	U	U
ANTHRACENE	UJ	U	540 J	180 J	180 J	220 J	U	U
BENZO(A)ANTHRACENE	190 J	210 J	1600 J	560	1000	1200	U	140 J
BENZO(B)FLUORANTHENE	140 J	200 J	850 J	350 J	1000	1000	U	U
BENZO(GHI)PERYLENE	UJ	U	UJ	U	130 J	U	U	U
BENZO(K)FLUORANTHENE	180 J	130 J	670 J	300 J	1300	1200	U	UJ
BENZO-A-PYRENE	UJ	U	UJ	U	460	770	U	U
BENZYL BUTYL PHTHALATE	UJ	U	UJ	U	UJ	UJ	UJ	840
BIS(2-ETHYLHEXYL) PHTHALATE	570 J	U	UJ	U	U	U	U	U
CARBAZOLE	UJ	U	UJ	U	130 J	180 J	U	U
CHRYSENE	210 J	190 J	920 J	360 J	1200	1200	U	540
DIBENZO(A,H)ANTHRACENE	UJ	UJ	160 J	UJ	360 J	350 J	UJ	UJ
DIBENZOFURAN	UJ	U	UJ	U	U	U	U	190 J
FLUORANTHENE	340 J	470	3200 J	1100	1900	2500	1600 J	180 J
FLUORENE	UJ	U	390 J	U	U	U	U	U
INDENO (1,2,3-CD) PYRENE	UJ	U	UJ	U	460	650	U	U
NAPHTHALENE	UJ	U	UJ	U	U	U	U	450
PHENANTHRENE	190 J	230 J	1800 J	540	690	1100	U	510
PYRENE	UJ	U	230 J	120 J	820 J	1200 J	UJ	210 J

U - not detected

J - Estimated

	PA127ASF	PA127BSF	PA128ASF	PA132ASF	PA132BSF	PA308ASF	PA315AASF	PA315ASF	PA350ASF	PA340BSF
% MOISTURE	24	18	16	22	20	18	27	21	21	16
2-METHYLNAPHTHALENE	U	U	U	U	U	U	U	U	120 J	140 J
ACENAPHTHYLENE	U	U	U	U	U	U	U	U	U	U
ANTHRACENE	U	U	U	U	U	U	U	U	U	U
BENZALDEHYDE	U	U	U	U	170 J	U	U	120 J	U	U
BENZO(A)ANTHRACENE	380 J	510	U	U	160 J	170 J	250 J	220 J	160 J	230 J
BENZO(B)FLUORANTHENE	530	500	U	U	190 J	160 J	320 J	340 J	330 J	240 J
BENZO(GHI)PERYLENE	290 J	U	U	U	U	230 J	82 J	160 J	U	100 J
BENZO(K)FLUORANTHENE	510	640	U	U	110 J	240 J	260 J	280 J	UJ	220 J
BENZO-A-PYRENE	330 J	160 J	U	U	130 J	160 J	250 J	270 J	U	250 J
BIS(2-ETHYLHEXYL) PHTHALATE	1300	U	U	U	U	U	U	490	U	U
CARBAZOLE	U	U	U	UJ	U	UJ	U	96 J	U	U
CHRYSENE	520	570	U	U	150 J	340 J	270 J	300 J	260 J	290 J
DIBENZO(A,H)ANTHRACENE	200 J	190 J	UJ	UJ	UJ	U	U	U	U	43 J
DIBENZOFURAN	U	U	U	U	U	U	UJ	U	U	U
FLUORANTHENE	840	1100	83 J	120 J	190 J	330 J	570	410 J	490	340 J
FLUORENE	U	U	U	U	U	U	U	U	U	U
INDENO (1,2,3-CD) PYRENE	400 J	190 J	U	U	U	180 J	140	180 J	U	140 J
NAPHTHALENE	U	U	U	U	U	U	U	U	U	U
PHENANTHRENE	210 J	490	U	U	U	U	150 J	180 J	290 J	130 J
PYRENE	570	470	U	U	120 J	230 J	450 J	320 J	300 J	320 J

U - not detected

J - Estimated

4.0 QUALITY ASSURANCE/QUALITY CONTROL

In addition to the environmental sampling, quality control samples were collected during the investigation. Blanks were collected to assess whether preservatives or sample decontamination and handling were sources of contamination. Trip blanks were prepared by the ASB for volatile organic compound analyses. The trip blanks were handled and stored with the samples collected from the investigation. This provided a check to determine if samples may have been contaminated during handling and storage. Organic-free water was generated on site The organic-free water system blanks were collected to ensure the integrity of the water treatment system. Equipment rinse blanks were collected from equipment cleaned on site, using organic-free water, and analyzed for VOCs, metals, BNAs, PCBs, and pesticides The equipment rinse blanks were collected to ensure that the sampling equipment was properly field cleaned. A preservative blank for metals analyses was collected after sampling was completed. Samples for laboratory quality control analyses (matrix spike/matrix spike duplicate) were collected as specified in the EISOPQAM.

Split samples were collected for approximately 5 percent of all surface soil samples collected. Data from split samples were evaluated to assess the variability of the sample handling (mixing). Data from split samples that differed by greater than 100% were evaluated by the field project leader for usability.

4.1 Field Quality Control Sampling Results (February 2000)

Trip Blanks - VOCs were not detected in the water trip blank. Acetone was detected in soil trip blank QA901TBS (18J ug/l) and in soil trip blank QA902TBS (14J ug/l). A possible source of the acetone in the VOC samples is laboratory contamination. Acetone is a common laboratory contaminant. Environmental samples contained acetone in levels ranging from 16 ug/kg - 270 ug/kg.

Several miscellaneous VOCs were identified. Two unknown compounds (25J ug/kg) were detected in QA901TBS and cyclotetrasiloxane, octameth (8J ug/kg) was detected in sample QA902TBS. It should be noted that miscellaneous VOCs were flagged as "data reported as identified by CLP lab - IDS not verified". The presence of the miscellaneous VOCs were not significant.

Organic-Free Water System Blank - No metals were detected in the portable system blank. Several metals, including zinc and iron, were detected in the raw water source used. Neither VOCs, BNAs, pesticides, nor PCBs were detected in the organic-free water system. The data indicated that the portable organic-free water system was functioning properly.

Equipment Rinse Blank - Iron (730 ug/l) and zinc (11 ug/l) were detected in the rinse blank. The level detected did not adversely impact the data generated. Neither VOCs, BNAs, pesticides, nor PCBs were detected in the rinse blank. The data indicate that the sampling equipment was properly cleaned.

Preservative Blank - Copper (8.8 ug/l) was detected in the preservative blank. The level detected is not significant and did not adversely impact the data generated. Copper was not detected in either the organic-free water system blank or the equipment rinse blank. Each of the quality control samples for metals analyses were preserved with the same bottle of nitric acid. A possible source of the copper was the water in the preservative blank.

Split Samples - Data were generally in agreement which indicated that the soil samples were adequately handled (mixed). Mercury (0.13 mg/kg) was detected just above the detection level (0.09 mg/kg) in sample PA-115A. Mercury was not detected in the split sample (PA-315A) collected at that location. Some PCB, pesticide and BNA data were generally in agreement; however, as previously mentioned, some sampling locations, including split sample locations, contained rejected data.

4.2 Data Qualifier Summary (February 2000)

Several data qualifiers or "flags" were applied to data collected during the week of February 14, 2000. The "J" flag indicates that the qualitative result is usable but that the result (amount present) should be considered an estimate. The "J" flag was assigned to numerous compounds because the concentration of the analyte reported was below the contract required quantitation limit. This flag is applied since a laboratory is only required to prepare a calibration standard at the lowest concentration defined in the CLP Statement of Work (SOW), but is usually able to quantitate at lower concentrations than the contract required quantitation limit. Other analytes were assigned "J" flags for cases in which the calibration standards were determined to be outside the acceptable linear range. This situation occurs when the responses for the 3 concentration standard levels do not agree within 20% relative standard deviation. A few "J" flags were assigned to data points when it was determined that these analytes had low recoveries in the Performance Evaluation (PE) samples. PE samples are provided by EPA and are analyzed with project samples at the laboratory. The compounds and concentrations in the PE samples are unknown to the laboratory.

The "R" flag was assigned when the data was rejected and considered unusable due to serious deficiencies in the ability to analyze samples and meet quality control criteria. The "R" flag was assigned to several pesticide or PCB compounds because the surrogate compound recoveries were less than 10%. Surrogate compounds are not target analytes but are designed to behave similarly to the compounds being analyzed. Surrogates are useful in monitoring the overall analytical process including extraction. While poor surrogate recoveries may indicate problems in the analytical process, they also may be due to a difficult sample matrix which has interfering substances present, or a sample which has a high affinity for the surrogate compound.

A number of samples for this project combined the "R" flag with the "U" flag ("UR"), indicating that the compound was not detected by the laboratory, but that the non-detect result is considered unusable. This "UR" flag is due to the low surrogate recoveries and the data user must not use these data for decision making. If the "UR" data is critical to decision making, these samples should be re-collected and re-analyzed, with notification to the laboratory that special clean-up procedures may be needed to remove interferences. Data users should be aware however, that if the poor surrogate recoveries are due to a complex sample matrix, re-sampling and re-analysis may not resolve the surrogate recovery issue.

The "N" flag was assigned to pesticide compounds which did not meet compound confirmation. The "N" flag indicates that there is presumptive evidence (tentative identification) of the presence of a compound. When a pesticide or PCB compound is detected in the original analysis by gas chromatography (GC), it must be confirmed on a second GC analysis using a dissimilar chromatographic column. If the two results on separate GC columns for a given compound are not within 25%, the compound is qualified with an "N" flag.

With the exception of the "R" flag, the presence of data qualifiers does not imply that the data are unacceptable. With proper assessment of the nature and type of quality control deficiencies on a sample by sample basis, data qualifiers represent additional information for decision makers.

5.0 REFERENCES

1. Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the Superfund Amendments and Reauthorization Act of 1986 (SARA).

2. U.S.EPA, *Standard Operating Procedure to Determine Site Latitude and Longitude Coordinates*. 1991.

3. U.S. EPA, *EPA QA G-4. Guidance for the DQO Process*, EPA/600/R-96/055, September 1994.

4. U.S. EPA, *EPA QA G-5, Guidance for QAPPs*, EPA/600/R-98/018, February 1998.

5. U.S. EPA, Region 4, *Analytical Support Branch Operations and Quality Control Manual*, (ASBOQCM). February 1997.

6. U.S. EPA, Region 4, *Environmental Investigations Standard Operating Procedures and Quality Assurance Manual*. EPA. May, 1996.

7. *Data Validation Standard Operating Procedures for Contract Laboratory Programs Routine Analytical Services*, Revision 2.0, January 1999, Office of Quality Assurance, SESD, USEPA, Region 4.

8. *U.S. EPA Contract Laboratory Program National Functional Guidelines for Organics Data Review*, EPA-540/R-94-012 (PB94-963501), February 1994.

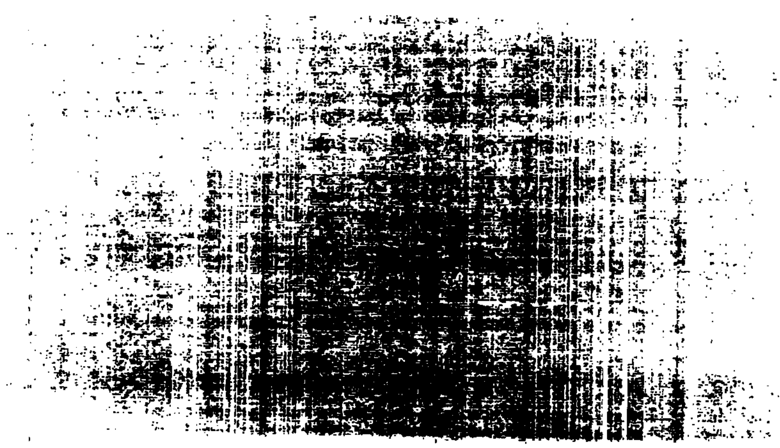
9. *U.S. EPA Contract Laboratory Program National Functional Guidelines for Organics Data Review*, EPA-540/R-94-013 (PB94-963502), February 1994.

10. U.S. EPA, Region 4, SESD *Surface Soil Sampling*, 6/28/99 to 6/30/99, Anniston, Alabama, SESD Project Number 99-0547.

11. U.S. EPA, Region 4, SESD *EPAQA/G-5, Guidance for Data Quality Assessment*, July 1996.

APPENDIX A
(approximately 1,000 pages)
ANALYTICAL DATA - FEBRUARY 14-18, 2000
ANNISTON PCB SITE
ANNISTON, ALABAMA

Information will be released upon request.
United States Environmental Protection Agency
Anniston PCB Site Community Relations Center
1313 Noble Street
Anniston, Alabama 36201
(256) 236-2599



ATTACHMENT 13

NATIONAL FLOOD INSURANCE PROGRAM

FIRM

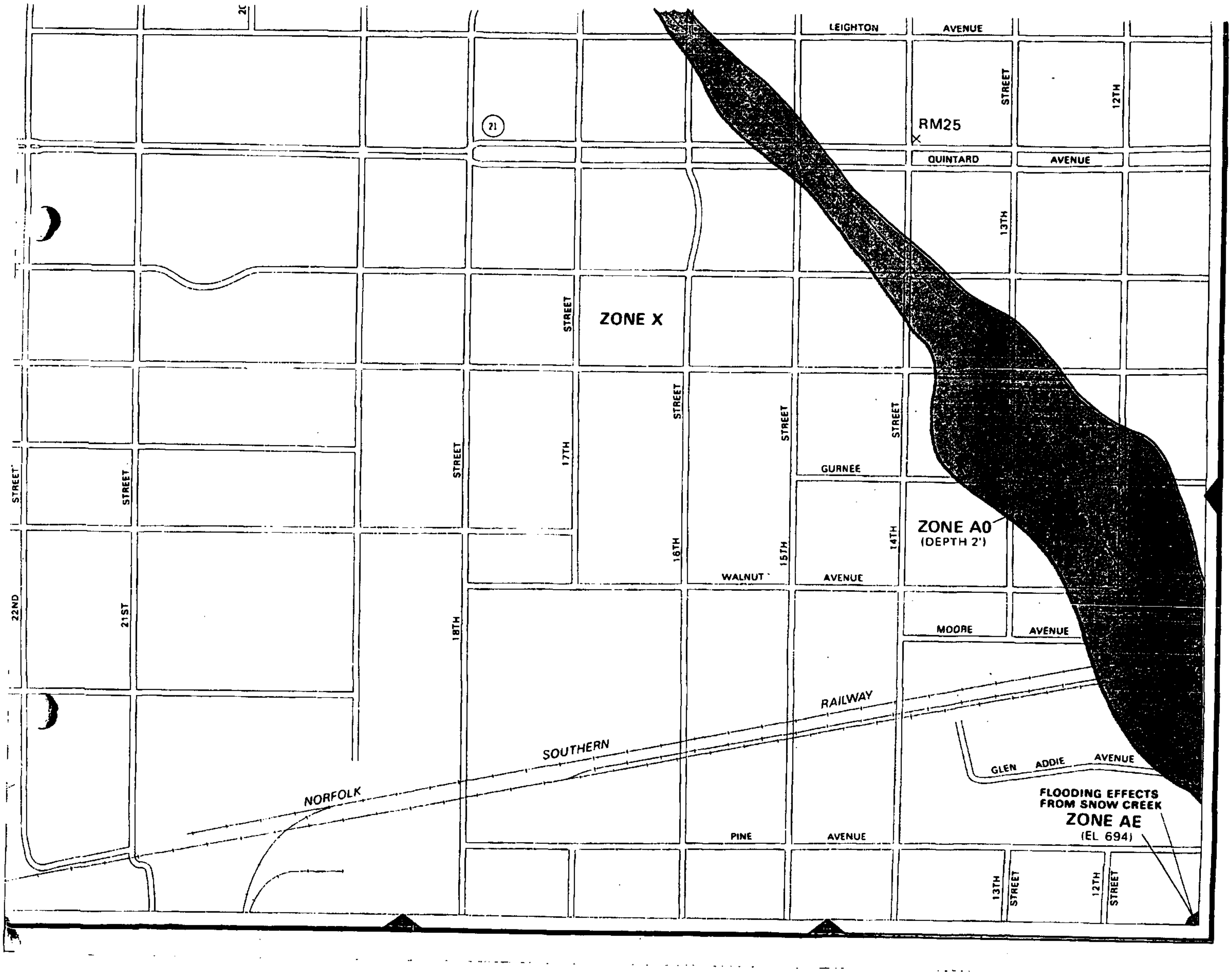
FLOOD INSURANCE RATE MAP

CITY OF
ANNISTON,
ALABAMA
CALHOUN COUNTY

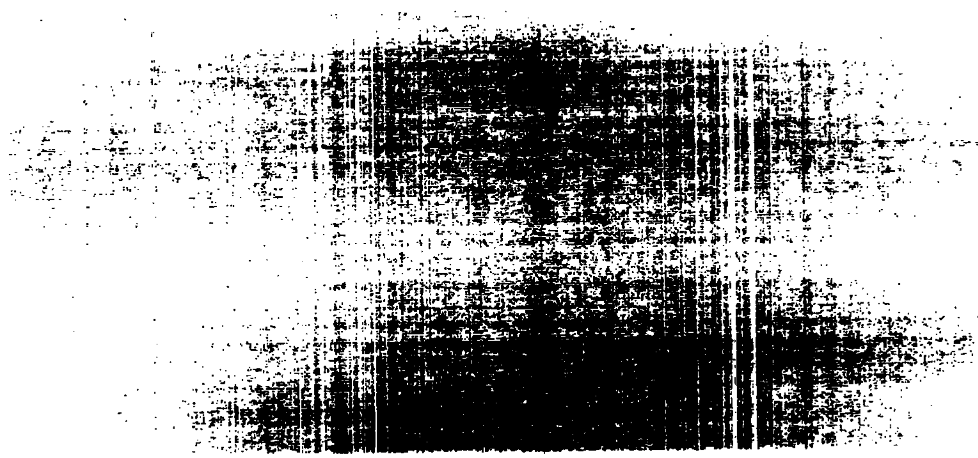
PANEL 3 OF 6

COMMUNITY—PANEL NUMBER:
010020 0003 C
MAP REVISED:
FEBRUARY 3, 1993

Federal Emergency Management Agency



LEIGHTON AVENUE
QUINTARD AVENUE
RM25
ZONE X
GURNEE
WALNUT AVENUE
MOORE AVENUE
ZONE A0
(DEPTH 2')
NORFOLK SOUTHERN RAILWAY
GLEN ADDIE AVENUE
PINE AVENUE
FLOODING EFFECTS FROM SNOW CREEK
ZONE AE
(EL 694)
22ND STREET
21ST STREET
18TH STREET
17TH STREET
16TH STREET
15TH STREET
14TH STREET
13TH STREET
12TH STREET
21



ATTACHMENT 14

04/28/2000 CALHOUN COUNTY ADVALOREM TAX SYSTEM

SALES DATA PARCEL ID: 21306405063

PAGE 1

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002	12 30 1992	JENKINS JULIAN W (QCD)	00		1882	130
003	07 27 1993	JENKINS JULIAN W (WD)	50000		1882	119

END OF FILE

000 00 00 0000

TO ADD, ENTER DATE, BUYER, AMOUNT, CODE, BOOK, AND PAGE
TO DELETE OR UPDATE, ENTER RECORD KEY# & PRESS ENTER.
PRESS PA2 KEY FOR OPTION SCREEN, PA1 FOR NEXT PARCEL NUM OR PF5 FOR NEXT NAME.

04/28/2000 CALHOUN COUNTY ADVALOREM TAX SYSTEM

SALES DATA PARCEL ID: 21306405063.01

PAGE 1

KEY	DATE	---------------BUYER---------------	AMOUNT	CD	BOOK	PAGE
001	09 29 1995	STEPHENSON JIMMY W & C ANN (SWD)		00	1952	621

END OF FILE

000 00 00 0000

TO ADD, ENTER DATE, BUYER, AMOUNT, CODE, BOOK, AND PAGE
TO DELETE OR UPDATE, ENTER RECORD KEY# & PRESS ENTER.
PRESS PA2 KEY FOR OPTION SCREEN, PA1 FOR NEXT PARCEL NUM OR PF5 FOR NEXT NAME.

04/28/2000 CALHOUN COUNTY ADVALOREM TAX SYSTEM

SALES DATA PARCEL ID: 21306405064

KEY	DATE	---------------BUYER---------------	AMOUNT	CD	BOOK	PAGE 1 PAGE
001	07 12 1996	JENKINS JULIAN W (QCD)	7500	DT	1983	236

END OF FILE

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TO ADD, ENTER DATE, BUYER, AMOUNT, CODE, BOOK, AND PAGE
TO DELETE OR UPDATE, ENTER RECORD KEY# & PRESS ENTER.
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Page: 1 Document Name: untitled

04/28/2000 CALHOUN COUNTY ADVALOREM TAX SYSTEM

01 MULLINAX ROBERT D (b)(6) Personal Privacy	(b)(6) Personal Privacy	362020000	21306405062
02 JENKINS JULIAN W (b)(6) Personal Privacy	(b)(6) Personal Privacy	362020000	21306405063
03 STEPHENSON JIMMY W & C ANN (b)(6) Personal Privacy	(b)(6) Personal Privacy	362070000	21306405063.01
04 JENKINS JULIAN W (b)(6) Personal Privacy	(b)(6) Personal Privacy	362020000	21306405064
05 CHURCH FIRST UNITED METHODIST 1400 NOBLE ST	NOBLE ST ANNISTON AL	362010000	21306406001
06 CHURCH FIRST UNITED METHODIST OF 1400 NOBLE ST	W 15TH ST ANNISTON AL	362010000	21306406002
07 CHURCH FIRST UNITED METHODIST 1400 NOBLE ST	W 15TH ST ANNISTON AL	362010000	21306406003
08 ANNISTON DEPT OF PARKS & RECREATION PO BOX 670	GURNEE AVE ANNISTON AL	362020000	21306406004
09 CHURCH FIRST UNITED METHODIST OF 1400 NOBLE ST	1411 GURNEE AVE ANNISTON AL	362010000	21306406005

LINE #:

ENTER LINE # TO SELECT NAME PF1 = FWD PF2 = BWD PA2 = OPTION SCREEN.

ATTACHMENT 16

WORKSTATION 739 - USER LAN - Lawrence A Norris

Workstation 739 Ready 11:57 am Thursday August 10, 2000

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*****************************************************************************************
*  *                                                                                *  *
* 1* List PWS SUMMARY                                Choose by cursor position or X's * 1*
* 2*                                                                                * 2*
* 3*                  ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT                * 3*
* 4*                    Federal Reporting Data System  (FRDS-II)                    * 4*
* 5*                                                                                * 5*
* 6*                                                              PWS    ACTIVITY   * 6*
* 7*    PWS ID    ______________SYSTEM NAME_______________       TYPE     FLAG      * 7*
* 8* *  AL 0000133  ANNISTON WATER & SEWER BOARD                    C        A        * 8*
* 9*                                                                                * 9*
*10*                                                                                *10*
* 1*                                                                                * 1*
* 2*                                                                                * 2*
* 3*                                                                                * 3*
* 4*                                                                                * 4*
* 5*                                                                                * 5*
* 6*                                                                                * 6*
* 7*                                                                                * 7*
* 8*                                                                                * 8*
* 9* ______________________________________________________________________________ * 9*
*20* Enter) Display           10) ADDRESS DATA     / ON SITE VISIT       15) Output *20*
* 1* 2) Mark / Clear  6) Add  11) STATE DISCRETIONARY / VIOLATION DATA     / Send * 1*
* 2*                  7) Query 12) SOURCE ENTITY / ENFORCEMENT DATA      16) Return * 2*
* 3*                           13) GEOGRAPHIC AREA / PROJECTS                       * 3*
* 4*                  9) Modify 14) SERVICE AREAS   / TOTALS                        * 4*
*  *                                                                                *  *
*****************************************************************************************
****          1         2         3         4         5         6         7         8 ****
**** 12345678901234567890123456789012345678901234567890123456789012345678901234567890 ****
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WORKSTATION 739 - USER LAN - Lawrence A Norris

Workstation 739 Ready 12:55 pm Thursday August 10, 2000

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********************************************************************************************
****          1         2         3         4         5         6         7         8 ****
**** 12345678901234567890123456789012345678901234567890123456789012345678901234567890 ****
********************************************************************************************
*  *                                                                                  *  *
* 1*  Display PWS SUMMARY                                                             * 1*
* 2*                                                                                  * 2*
* 3*  PWS ID: AL 0000133 PWS TYPE: C (C,N,P) SAMPLING PLAN: Y (Y,N)                   * 3*
* 4*  ACTIVITY FLAG:  A (A or I)     SYSTEM BEGIN-YY:  60     SYSTEM BEGIN-MM:  01    * 4*
* 5*  DEACT-YY:      00        DEACT-MM:     00        POPULATION SERVED:  56,649     * 5*
* 6*  PCT SURFACE: 100  PCT GROUND:  000  PCT PUR SURFACE: 000  PCT PUR GROUND: 000   * 6*
* 7*  SYSTEM NAME:               ANNISTON WATER & SEWER BOARD                         * 7*
* 8*  RESPONSIBLE PERSON:   MR. JAMES MILLER, GENERAL MANAGER                         * 8*
* 9*  ADDRESS (ST/BOX):          P O BOX 2268                                         * 9*
*10*  CITY: ANNISTON                                     STATE: AL  ZIP: 36202        *10*
* 1*  PRIMARY PHONE:    256 236 3429      EMERGENCY PHONE:     256 237 4781           * 1*
* 2*  SERVICE CONNECTIONS:  20,000             OWNER TYPE:     4     AC PIPE:         * 2*
* 3*  REGULATING ENTITY: S (F=Federal S=State B=Both N=Neither)  CROSS CONNECT: Y     * 3*
* 4*  SEASON BEGIN-MM: 00 SEASON BEGIN-DD: 00 SEASON END-MM: 00  SEASON END-DD: 00    * 4*
* 5*  REQUIRED COMPLIANCE SAMPLES: 0060   REQUIRED RAW SAMPLES: 0002                  * 5*
* 6*  LAB ID:     30160    LAB NAME: Anniston Water Works Laboratory                  * 6*
* 7*  TURBIDITY MONITORING REQUIRED: Y (Y OR N)   USER: BAL  DATE: 08/01/00           * 7*
* 8*  FLOURIDE MONITORING REQUIRED:  Y (Y OR N)   TIME:  09:06:18.00                  * 8*
* 9*                                                                                  * 9*
*20*                                  10) ADDRESS DATA     / ON SITE VISIT    15) Output *20*
* 1*                     6) Add       11) STATE DISCRETIO / VIOLATION DATA       / Send * 1*
* 2*  3) Down                         12) SOURCE ENTITY I / ENFORCEMENT DAT  16) Return * 2*
* 3*                                  13) GEOGRAPHIC AREA / PROJECTS                  * 3*
* 4*                     9) Modify    14) SERVICE AREAS    / TOTALS                   * 4*
*  *                                                                                  *  *
********************************************************************************************
****          1         2         3         4         5         6         7         8 ****
**** 12345678901234567890123456789012345678901234567890123456789012345678901234567890 ****
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WORKSTATION 739 - USER LAN - Lawrence A Norris

Workstation 739 Ready 12:55 pm Thursday August 10, 2000

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***************************************************************************************
****            1            2            3            4            5            6            7            8 ****
**** 12345678901234567890123456789012345678901234567890123456789012345678901234567890 ****
***************************************************************************************
*  *                                                                                 *  *
* 1*  Display PWS SUMMARY                                                            * 1*
* 2*                                                                                 * 2*
* 3*  WHPP CATEGORY:      I    (I, II, III, N)  WHPP:       (Y OR N)                 * 3*
* 4*  WHPP DUE DATE:                            WHPP SUBMITTED DATE:                 * 4*
* 5*  WHPP APPROVAL DATE:                       WATER CONSERVATION PLAN:    (Y OR N) * 5*
* 6*                                                                                 * 6*
* 7*                                                                                 * 7*
* 8*                                                                                 * 8*
* 9*                                                                                 * 9*
*10*                                                                                 *10*
* 1*                                                                                 * 1*
* 2*                                                                                 * 2*
* 3*                                                                                 * 3*
* 4*                                                                                 * 4*
* 5*                                                                                 * 5*
* 6*                                                                                 * 6*
* 7*                                                                                 * 7*
* 8*                                                                                 * 8*
* 9*                                                                                 * 9*
*20*                              10) ADDRESS DATA    / ON SITE VISIT     15) Output *20*
* 1*  2) Up          6) Add       11) STATE DISCRETIO / VIOLATION DATA        / Send * 1*
* 2*                              12) SOURCE ENTITY I / ENFORCEMENT DAT   16) Return * 2*
* 3*                              13) GEOGRAPHIC AREA / PROJECTS                     * 3*
* 4*                 9) Modify    14) SERVICE AREAS   / TOTALS                       * 4*
*  *                                                                                 *  *
***************************************************************************************
****            1            2            3            4            5            6            7            8 ****
**** 12345678901234567890123456789012345678901234567890123456789012345678901234567890 ****
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WORKSTATION 739 - USER LAN - Lawrence A Morris

Workstation 739 Ready 11:59 am Thursday August 10, 2000

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****************************************************************************************
****          1         2         3         4         5         6         7         8 ****
**** 12345678901234567890123456789012345678901234567890123456789012345678901234567890 ****
****************************************************************************************
*  *                                                                                *  *
* 1* List SOURCE ENTITY INFO                      Choose by cursor position or X's  * 1*
* 2*                                                                                * 2*
* 3*               ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT                   * 3*
* 4*                  Federal Reporting Data System  (FRDS-II)                      * 4*
* 5*                  SE                                              SE            * 5*
* 6*    PWS ID2       ID               NAME                           CODE          * 6*
* 7*  * AL 0000133    001       COLDWATER SPRING                      SS            * 7*
* 8*  * AL 0000133    002       HILLABEE CREEK                        SS            * 8*
* 9*                                                                                * 9*
*10*                                                                                *10*
* 1*                                                                                * 1*
* 2*                                                                                * 2*
* 3*                                                                                * 3*
* 4*                                                                                * 4*
* 5*                                                                                * 5*
* 6*                                                                                * 6*
* 7*                                                                                * 7*
* 8*                                                                                * 8*
* 9*                                                                                * 9*
*20* Enter) Display                10) PWS SUMMARY                        15) Output *20*
* 1* 2) Mark / Clear   6) Add      11) TREATMENT DATA                         / Send * 1*
* 2*                   7) Query    12) TOTALS                             16) Return * 2*
* 3*                               13) SOURCE CHEMICAL MONITORING        / Exit Menu * 3*
* 4*                   9) Modify                                                    * 4*
*  *                                                                                *  *
****************************************************************************************
****          1         2         3         4         5         6         7         8 ****
**** 12345678901234567890123456789012345678901234567890123456789012345678901234567890 ****
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WORKSTATION 739 - USER LAN - Lawrence A Norris

Workstation 739 Ready 12:01 pm Thursday August 10, 2000

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*************************************************************************************
****          1         2         3         4         5         6         7         8 ****
**** 1234567890123456789012345678901234567890123456789012345678901234567890123456789 0 ****
*************************************************************************************
*  *                                                                              *  *
* 1* Display SOURCE ENTITY INFO                                                   * 1*
* 2*                                                                              * 2*
* 3*                                               USERID: NL    DATE: 06/27/00   * 3*
* 4* SYSTEM NAME: ANNISTON WATER & SEWER BOARD                 TIME: 09:48:55.64  * 4*
* 5* PWS ID: AL 0000133   SE ID: 001   PWS TYPE: C   ACTIVITY CODE: A             * 5*
* 6* AVAILABILITY: P  (P=Permanent E=Emergency S=Seasonal I=Interium O=Other)     * 6*
* 7* SE CODE: SS        SOURCE NAME:  COLDWATER SPRING                            * 7*
* 8* SELLER PWSID: AL             LATITUDE:  333559     LONGITUDE: 0855531        * 8*
* 9* MERIDIAN NAME:                                          CT:   0              * 9*
*10* DATA ORIGIN: S     TOWNSHIP:  000     (N or S)   RANGE:  000     (E or W)    *10*
* 1* SECTION: 00  QTR SECTION:    (NW,NE,SW,SE) QTR QTR SECTION:   (NW,NE,SW,SE)  * 1*
* 2* RIVER REACHNUM:  03150106      ON REACH:   (Y or N)   REACH MILES: 0.00      * 2*
* 3* WELL TYPE:         WELL DEPTH:  0          AQUIFER:                          * 3*
* 4* CASING DIAMETER:  0     CASING TYPE:              WELL DRAW DOWN:  0         * 4*
* 5* WELL STATIC LEVEL:   0                  SOURCE AVERAGE PRODUCTION:  12,200,000 * 5*
* 6* PUMP RATED CAPACITY: 0                  RAW STORAGE:     0                   * 6*
* 7* MAXIMUM PRODUCTION:  12,900,000   SOURCE DATE-MM: 00   SOURCE DATE-YY:  00   * 7*
* 8* RECEIVING PLANT:                                  VULNERABILITY: Y           * 8*
* 9* ______________________________________________________________________________ * 9*
*20*                               10) PWS SUMMARY                     15) Output *20*
* 1*                     6) Add    11) TREATMENT DATA                     / Send * 1*
* 2* 3) Down                                                           16) Return * 2*
* 3*                                                                              * 3*
* 4* 5) Next / Last      9) Modify                                                * 4*
*  *                                                                              *  *
*************************************************************************************
****          1         2         3         4         5         6         7         8 ****
**** 1234567890123456789012345678901234567890123456789012345678901234567890123456789 0 ****
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WORKSTATION 739 - USER LAN - Lawrence A Norris

Workstation 739 Ready 12:56 pm Thursday August 10, 2000

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****          1         2         3         4         5         6         7         8 ****
**** 12345678901234567890123456789012345678901234567890123456789012345678901234567890 ****
************************************************************************************
*  *                                                                                *  *
* 1* Display SOURCE ENTITY INFO                                                     * 1*
* 2*                                                                                * 2*
* 3* LOCATION: END OF FRIENDSHIP RD                                                 * 3*
* 4* SURFACE WATER TREATMENT PLANT CAPACITY:  008000000                             * 4*
* 5* COMMENT:                                                                       * 5*
* 6*                                                                                * 6*
* 7* CHEMICALS USED: alum, coag.pre/post lime,pre/post CL,                          * 7*
* 8*                 potassium permanganate, FL                                     * 8*
* 9*                                                                                * 9*
*10* OIL PUMP LUBRICATION: N (Y OR N)                                               *10*
* 1*                                                                                * 1*
* 2* GPS LATITUDE: 33.580827      LATITUDE:   33  DEGREES 34  MINUTES 51.0  SECONDS * 2*
* 3*                                                                                * 3*
* 4* GPS LONGITUDE: - 85.751696   LONGITUDE: 85   DEGREES 45  MINUTES 6.1   SECONDS * 4*
* 5*                                                                                * 5*
* 6* GPS UPDATE DATE: 08/13/1998                                                    * 6*
* 7*                                                                                * 7*
* 8*                                                                                * 8*
* 9* ______________________________________________________________________________ * 9*
*20*                              10) PWS SUMMARY                         15) Output *20*
* 1* 2) Up            6) Add      11) TREATMENT DATA                         / Send * 1*
* 2*                                                                      16) Return * 2*
* 3* 4) Prev / First                                                                * 3*
* 4*                  9) Modify                                                     * 4*
*  *                                                                                *  *
************************************************************************************
****          1         2         3         4         5         6         7         8 ****
**** 12345678901234567890123456789012345678901234567890123456789012345678901234567890 ****
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WORKSTATION 739 - USER LAN - Lawrence A Norris

Workstation 739 Ready 12:55 pm Thursday August 10, 2000

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****         1         2         3         4         5         6         7         8 ****
**** 12345678901234567890123456789012345678901234567890123456789012345678901234567890 ****
*******************************************************************************************
*  *                                                                                *  *
* 1*  Display SOURCE ENTITY INFO                                                    * 1*
* 2*                                                                                * 2*
* 3*  LOCATION: OFF COLDWATER ROAD                                                  * 3*
* 4*  SURFACE WATER TREATMENT PLANT CAPACITY:  023000000                            * 4*
* 5*  COMMENT:                                                                      * 5*
* 6*                                                                                * 6*
* 7*  CHEMICALS USED:  chlorine, fluoride,                                          * 7*
* 8*                                                                                * 8*
* 9*                                                                                * 9*
*10*  OIL PUMP LUBRICATION: N (Y OR N)                                              *10*
* 1*                                                                                * 1*
* 2*  GPS LATITUDE: 33.603134      LATITUDE:   33  DEGREES 36  MINUTES 11.3  SECONDS * 2*
* 3*                                                                                * 3*
* 4*  GPS LONGITUDE: - 85.925861   LONGITUDE: 85   DEGREES 55  MINUTES 33.1  SECONDS * 4*
* 5*                                                                                * 5*
* 6*  GPS UPDATE DATE: 05/11/1995                                                   * 6*
* 7*                                                                                * 7*
* 8*                                                                                * 8*
* 9*                                                                                * 9*
*20*                               10) PWS SUMMARY                      15) Output *20*
* 1*  2) Up            6) Add       11) TREATMENT DATA                     / Send  * 1*
* 2*                                                                    16) Return * 2*
* 3*                                                                                * 3*
* 4*  5) Next / Last   9) Modify                                                    * 4*
*  *                                                                                *  *
*******************************************************************************************
****         1         2         3         4         5         6         7         8 ****
**** 12345678901234567890123456789012345678901234567890123456789012345678901234567890 ****
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WORKSTATION 739 - USER LAN - Lawrence A Norris

Workstation 739 Ready 12:03 pm Thursday August 10, 2000

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******************************************************************************************
****          1         2         3         4         5         6         7         8 ****
**** 12345678901234567890123456789012345678901234567890123456789012345678901234567890 ****
******************************************************************************************
*  *                                                                                *  *
* 1*  Display SOURCE ENTITY INFO                                                    * 1*
* 2*                                                                                * 2*
* 3*                                                 USERID: ML    DATE: 06/27/00   * 3*
* 4*  SYSTEM NAME: ANNISTON WATER & SEWER BOARD                  TIME: 09:48:25.47  * 4*
* 5*  PWS ID: AL 0000133   SE ID: 002   PWS TYPE: C    ACTIVITY CODE: A            * 5*
* 6*  AVAILABILITY: P  (P=Permanent E=Emergency S=Seasonal I=Interium O=Other)     * 6*
* 7*  SE CODE: SS      SOURCE NAME:  HILLABEE CREEK                                 * 7*
* 8*  SELLER PWSID: AL          LATITUDE:  333500      LONGITUDE: 0854530           * 8*
* 9*  MERIDIAN NAME:                                           CT:   0              * 9*
*10*  DATA ORIGIN: S     TOWNSHIP:  000     (N or S)   RANGE:  000     (E or W)     *10*
* 1*  SECTION: 00  QTR SECTION:     (NW,NE,SW,SE) QTR QTR SECTION:     (NW,NE,SW,SE) * 1*
* 2*  RIVER REACHNUM:   00000000      ON REACH:    (Y or N)    REACH MILES: 0.00    * 2*
* 3*  WELL TYPE:         WELL DEPTH:  0          AQUIFER:                           * 3*
* 4*  CASING DIAMETER:  0     CASING TYPE:             WELL DRAW DOWN:   0          * 4*
* 5*  WELL STATIC LEVEL:   0               SOURCE AVERAGE PRODUCTION:  528,000      * 5*
* 6*  PUMP RATED CAPACITY: 2,916           RAW STORAGE:    0                        * 6*
* 7*  MAXIMUM PRODUCTION:  1,300,000    SOURCE DATE-MM: 00    SOURCE DATE-YY:  00   * 7*
* 8*  RECEIVING PLANT:    KNOWLTON PLANT               VULNERABILITY: Y             * 8*
* 9*  ___________________________________________________________________________  * 9*
*20*                            10) PWS SUMMARY                         15) Output *20*
* 1*                6) Add      11) TREATMENT DATA                          / Send * 1*
* 2*  3) Down                                                           16) Return * 2*
* 3*  4) Prev / First                                                               * 3*
* 4*                9) Modify                                                       * 4*
*  *                                                                                *  *
******************************************************************************************
****          1         2         3         4         5         6         7         8 ****
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ATTACHMENT 17

	T -	Orange-nacre mucket *Lampsilis perovalis*
Bibb (cont.)	T -	Fine-lined pocketbook *Lampsilis altilis*
	T -	Mohr's barbara's buttons *Marshallia mohrii*
	E -	Tennessee yellow-eyed grass *Xyris tennessensis*
Blount	T -	Flattened musk turtle *Sternotherus depressus*
	E -	Triangular kidneyshell *Ptychobranchus greeni*
	T -	Eggert's sunflower *Helianthus eggertii*
	T -	Fine-lined pocketbook mussel *Lampsilis altilis*
	E -	Ovate clubshell *Pleurobema perovatum*
Bullock	E -	Relict trillium *Trillium reliquum*
	T -	Eastern indigo snake *Drymarchon corais couperi* (P)
	E -	Red-cockaded woodpecker *Picoides borealis*
Butler	T -	Red hills salamander *Phaeognathus hubrichti*
Calhoun	E -	Gray bat *Myotis grisescens*
	E -	Red-cockaded woodpecker *Picoides borealis*
	T -	Pygmy sculpin *Cottus pygmaeus*
	T -	Blue shiner *Cyprinella caerulea*
	T -	Fine-lined pocketbook mussel *Lampsilis altilis*
	E -	Tulotoma snail *Tulotoma magnifica*
	E -	Southern pigtoe mussel *Pleurobema georgianum*
	E -	Tennessee yellow-eyed grass *Xyris tennessensis*
	T -	Mohr's Barbara's buttons *Marshallia mohrii*
	PT -	Painted rocksnail *Leptoxis taeniata*
Chambers	T -	Little amphianthus *Amphianthus pusillus*
Cherokee	T -	Bald eagle *Haliaeetus leucocephalus*
	T -	Blue shiner *Cyprinella caerulea*
	E -	Coosa moccasinshell mussel *Medionidus parvulus*
	E -	Alabama leather flower *Clematis socialis*
	T -	Mohr's Barbara's buttons *Marshallia mohrii*
	E -	Southern clubshell *Pleurobema decisum*
Cherokee	T -	Kral's water-plantain *Sagittaria secundifolia*
	E -	Green pitcher plant *Sarracenia oreophila*
	E -	Harperella *Ptilimnium nodosum*
Chilton	T -	Bald eagle *Haliaeetus leucocephalus*
	E -	Red-cockaded woodpecker *Picoides borealis*
	E -	Alabama canebrake pitcher plant *Sarracenia rubra alabamensis*
	PT -	Painted rocksnail *Leptoxis taeniata*

ATTACHMENT 18

ALABAMA

FEDERALLY LISTED ENDANGERED / THREATENED SPECIES

current as of 13 January 1999

TAXA	STATUS	COMMON / SCIENTIFIC NAMES	DISTRIBUTION
Mammals (7)		(See note on bottom of page 7)	
	E	Red wolf* *Canis rufus*	Extirpated
	E	Florida panther* *Felis concolor coryi*	Extirpated
	E	Gray bat *Myotis grisescens*	Tennessee Valley, Shelby and Conecuh Counties
	E CH	Indiana bat *Myotis sodalis*	Tennessee Valley, Jackson County
	E CH	Alabama beach mouse *Peromyscus polionotus ammobates*	Coastal, Baldwin county
	E CH	Perdido Key beach mouse *Peromyscus polionotus trissyllepsis*	Coastal, Baldwin county
	E CH	West Indian (Florida) manatee *Trichechus manatus*	Coastal waters
Birds (8)	E	Ivory-billed woodpecker* *Campephilus principalis*	Extirpated
	T	Piping Plover *Charadrius melodus*	Coastal beaches and islands
	E CH	American peregrine falcon *Falco peregrinus anatum*	Statewide
	T	Bald Eagle *Haliaeetus leucocephalus*	Statewide
	E	Wood stork *Mycteria americana*	Statewide

TAXA	STATUS	COMMON / SCIENTIFIC NAMES	DISTRIBUTION
	E	Eskimo curlew *Numenius borealis*	Possible migrant
	E	Red-cockaded woodpecker *Picoides borealis*	Statewide
	E	Bachman's warbler* *Vermivora bächmanii*	Probably extirpated
Reptiles (10)	T (SA)	American Alligator *Alligator mississippiensis*	Southern half of the state
	T	Loggerhead sea turtle *Caretta caretta*	Coastal waters, nests on Alabama beaches
	T	Green sea turtle *Chelonia mydas*	Coastal waters, nests on Alabama beaches
	E CH	Leatherback sea turtle *Dermochelys coriacea*	Coastal waters
	T	Eastern indigo snake *Drymarchon corais couperi*	Extreme southern counties
	E CH	Hawksbill sea turtle *Eretmochelys imbricata*	Coastal waters
	T	Gopher tortoise *Gopherus polyphemus*	Choctaw, Mobile, and Washington Counties (western population <u>only</u> is listed)
	E	Kemp's (Atlantic) Ridley sea turtle *Lepidochelys kempii*	Coastal waters
	E	Alabama red-bellied turtle *Pseudemys alabamensis*	Mobile, Baldwin, and Monroe Counties
	T	Flattened musk turtle *Sternotherus depressus*	Upper Black Warrior River system
Amphibians (1)	T	Red Hills salamander *Phaeognathus hubrichti*	Butler, Crenshaw, Conecuh, Covington and Monroe Counties

TAXA	STATUS	COMMON / SCIENTIFIC NAMES	DISTRIBUTION
Fish (12)	T	Gulf sturgeon *Acipenser oxyrhynchus desotoi*	Alabama, Mobile, Conecuh and Choctawhatchee Rivers
	T	Pygmy sculpin *Cottus pygmaeus*	Calhoun County
	T	Blue shiner *Cyprinella caerulea*	Coosa River: Cherokee, Calhoun, Talladega, Coosa Counties
	T CH	Spotfin chub *Cyprinella monacha*	Tennessee River: Lauderdale and Colbert Counties
	T CH	Slackwater darter *Etheostoma boschungi*	Tennessee River: Madison, Lauderdale, and Limestone Counties
	E	Watercress darter *Etheostoma nuchale*	Jefferson County
	E	Boulder darter *Etheostoma wapiti*	Elk River: Limestone County
	E	Cahaba shiner *Notropis cahabae*	Cahaba River: Bibb County
	E	Palezone shiner *Notropis albizonatus*	Paint Rock River: Jackson County
	T	Goldline darter *Percina aurolineata*	Cahaba River system: Bibb and Shelby Counties
	T	Snail darter *Percina tanasi*	Paint Rock River: Jackson County
	E CH	Alabama cavefish *Speoplatyrhinus poulsoni*	Lauderdale County
Mussels (39)	E	Fanshell mussel *Cyprogenia stegaria*	Tennessee River
	E	Dromedary pearly mussel *Dromus dromas*	Tennessee River

TAXA	STATUS	COMMON / SCIENTIFIC NAMES	DISTRIBUTION
	E	Cumberlandian combshell *Epioblasma brevidens*	Tennessee River
	E	Oyster mussel *Epioblasma capsaeformis*	Tennessee River
	E	Yellow-blossom pearly mussel *Epioblasma florentina florentina*	Tennessee River
	E	Upland combshell mussel *Epioblasma metastriata*	Black Warrior, Cahaba and Coosa River drainages
	E	Purple cat's paw pearly mussel *Epioblasma obliquata obliquata*	Tennessee River
	E	Southern acornshell mussel *Epioblasma othcaloogenesis*	Upper Coosa and Cahaba River drainages
	E	Southern combshell mussel *Epioblasma penita*	Tombigbee River, Buttahatchie River
	E	Tubercled-blossom pearly mussel* *Epioblasma torulosa torulosa*	Tennessee River
	E	Turgid-blossom pearly mussel *Epioblasma turgidula*	Tennessee River
	E	Fine-rayed pigtoe mussel *Fusconaia cuneolus*	Paint Rock River
	E	Shiny pigtoe mussel *Fusconaia cor (=edgariana)*	Paint Rock River
	E	Cracking pearly mussel *Hemistena lata*	Tennessee River
	T	Fine-lined pocketbook mussel *Lampsilis altilis*	Coosa, Tallapoosa, and Cahaba drainages
	E	Pink mucket pearly mussel *Lampsilis abrupta*	Tennessee River, Paint Rock River
	T	Orange-nacre mucket *Lampsilis perovalis*	Tombigbee, Black Warrior, Alabama, and Cahaba drainages

TAXA	STATUS	COMMON / SCIENTIFIC NAMES	DISTRIBUTION
	E	Shinyrayed pocketbook *Lampsilis subangulata*	Uchee Creek, Russell County
	E	Alabama lamp pearly mussel *Lampsilis virescens*	Paint Rock River, Hurricane Creek
	T	Alabama moccasinshell mussel *Medionidus acutissimus*	Alabama, Tombigbee, Cahaba, Coosa, Black Warrior drainages
	E	Coosa moccasinshell mussel *Medionidus parvulus*	Coosa, Cahaba, and Black Warrior drainages
	E	Ring pink mussel *Obovaria retusa*	Tennessee River
	E	Little-wing pearly mussel *Pegias fabula*	Tennessee River
	E	White wartyback pearly mussel *Plethobasus cicatricosus*	Tennessee River
	E	Orange-footed pearly mussel *Plethobasus cooperianus*	Tennessee River
	E	Clubshell* *Pleurobema clava*	Tennessee River drainage
	E	Black clubshell mussel* *Pleurobema curtum*	Extirpated
	E	Southern clubshell mussel *Pleurobema decisum*	Tombigbee, Black Warrior, Alabama, Tallapoosa and Coosa drainages
	E	Dark pigtoe mussel *Pleurobema furvum*	Sipsey Fork and North River drainages of Black Warrior River drainage
	E	Southern pigtoe mussel *Pleurobema georgianum*	Coosa River drainage
	E	Flat pigtoe mussel *Pleurobema marshalli*	Tombigbee River
	E	Ovate clubshell mussel *Pleurobema perovatum*	Tombigbee, Black Warrior, Alabama, Tallapoosa and Coosa drainages

TAXA	STATUS	COMMON / SCIENTIFIC NAMES	DISTRIBUTION
	E	Rough pigtoe mussel *Pleurobema plenum*	Tennessee River
	E	Heavy pigtoe mussel *Pleurobema taitianum*	Tombigbee and Sipsey Rivers
	T	Inflated heelsplitter mussel *Potamilus inflatus*	Black Warrior and Tombigbee Rivers
	E	Triangular kidneyshell mussel *Ptychobranchus greeni*	Black Warrior, Cahaba, and Coosa River drainages
	E	Cumberland monkeyface pearly mussel *Quadrula intermedia*	Tennessee River
	E	Stirrup shell mussel *Quadrula stapes*	Tombigbee River, Sipsey River
	E	Pale lilliput pearly mussel *Toxolasma cylindrellus*	Paint Rock River, Hurricane Creek
Snails (8)	E	Anthony's riversnail *Anthearnia anthonyi*	Limestone Creek and Tennessee River: Limestone County
	T	Lacy elimia *Elimia crenatella*	Coosa River drainage: Talladega, Chilton and Calhoun Counties
	T	Round rocksnail *Leptoxis ampla*	Cahaba River drainage: Bibb and Shelby Counties
	E	Plicate rocksnail *Leptoxis plicata*	Locust Fork River: Jefferson County
	T	Painted rocksnail *Leptoxis taeniata*	Coosa River drainage: Talladega, Chilton and Calhoun Counties
	E	Flat pebblesnail *Lepyrium showalteri*	Cahaba River drainage: Bibb and Shelby Counties
	E	Cylindrical lioplax *Lioplax cyclostomaformis*	Cahaba River drainage: Bibb and Shelby Counties

TAXA	STATUS	COMMON / SCIENTIFIC NAMES	DISTRIBUTION
	E	Tulotoma snail *Tulotoma magnifica*	several tributaries of the Coosa River system
Crustacea (1)	E	Alabama cave shrimp *Palaemonias alabamae*	Madison County
Insecta (1)	E	American burying beetle* *Nicrophorus americanus*	Statewide
Plants (20)	T	Little amphianthus *Amphianthus pusillus*	Chambers and Randolph Counties
	T	Price's potato-bean *Apios priceana*	Autauga, Madison and Marshall Counties
	E	Rock cress *Arabis perstellata* var. *perstellata*	Bibb County
	E	Morefield's leather flower *Clematis morefieldii*	Madison County
	E	Alabama leather flower *Clematis socialis*	St. Clair and Cherokee Counties
	E	Leafy prairie-clover *Dalea foliosa*	Colbert, Franklin, Morgan, Lawrence, Jefferson Counties
	T	Eggert's sunflower *Helianthus eggertii*	Blount County
	E	Gentian pinkroot *Spigelia gentianoides*	Bibb County
	T	Lyrate bladder-pod *Lesquerella lyrata*	Colbert, Franklin and Lawrence Counties
	E	Pondberry *Lindera melissifolia*	Wilcox County

TAXA	STATUS	COMMON / SCIENTIFIC NAMES	DISTRIBUTION
	T	Mohr's Barbara's buttons *Marshallia mohrii*	Bibb, Calhoun, Cherokee, Cullman, Walker, Etowah Counties
	T	American hart's-tongue fern *Asplenium scolopendrium* var. *americanum*	Morgan and Jackson Counties
	E	Harperella *Ptilimnium nodosum*	Cherokee, DeKalb and Tuscaloosa Counties
	T	Kral's water-plantain *Sagittaria secundifolia*	Cherokee, DeKalb and Winston Counties
	E	Green pitcher plant *Sarracenia oreophila*	Cherokee, DeKalb, Etowah, Jackson, and Marshall Counties
	E	Alabama canebrake pitcher-plant *Sarracenia rubra alabamensis*	Autauga, Chilton, Elmore Counties
	E	American chaffseed*? *Schwalbea americana*	Mobile, Baldwin, Geneva Counties
	T	Alabama streak-sorus fern *Thelypteris pilosa* var. *alabamensis*	Winston County
	E	Relict trillium *Trillium reliquum*	Henry, Lee, Bullock Counties
	E	Tennessee yellow-eyed grass *Xyris tennesseensis*	Bibb, Calhoun and Franklin Counties

Total Animal Species: 87, not including 5 species of whales
Total Plant Species: 20

	*	=	Not believed to occur in Alabama
	E	=	Endangered
Status:	T	=	Threatened
	T(SA)	=	Threatened because of Similarity of Appearance
	CH	=	Critical Habitat has been designated

NOTE: There are 5 endangered species of whales found in coastal waters of the southeastern states. These include the finback whale *Balaenoptera physalus*, the humpback whale *Megaptera novaeangliae*, the right whale *Balaena glacialis*, the sei whale *Balaenoptera borealis*, and the sperm whale *Physeter catodon*. It is possible, though unlikely, that they could appear in Alabama coastal waters.

ATTACHMENT 19

ALABAMA
1990 Population Totals

Bureau of the Census
Department of Commerce

This table provides 1990 census population counts for states and governmental units. Since these counts provide only totals for the states and local governmental units, they are not suitable for redistricting. As required by Public Law 94-171, the Bureau of the Census will provide redistricting counts at the block level for all states and the District of Columbia. The counts will be released on a state-by-state basis beginning in early 1991 and ending by April 1, 1991.

The population counts set forth herein are subject to possible correction for undercount or overcount. The United States Department of Commerce is considering whether to correct these counts and will publish corrected counts, if any, not later than July 15, 1991.

(010491)

GOVERNMENTAL UNIT CODE	NAME	Number of Persons
ST 01	ALABAMA	4,040,587
CO 01 001	Autauga County	34,222
CO 01 003	Baldwin County	98,280
CO 01 005	Barbour County	25,417
CO 01 007	Bibb County	16,576
CO 01 009	Blount County	39,248
CO 01 011	Bullock County	11,042
CO 01 013	Butler County	21,892
CO 01 015	Calhoun County	116,034
CO 01 017	Chambers County	36,876
CO 01 019	Cherokee County	19,543
CO 01 021	Chilton County	32,458
CO 01 023	Choctaw County	16,018
CO 01 025	Clarke County	27,240
CO 01 027	Clay County	13,252
CO 01 029	Cleburne County	12,730
CO 01 031	Coffee County	40,240
CO 01 033	Colbert County	51,666
CO 01 035	Conecuh County	14,054
CO 01 037	Coosa County	11,063
CO 01 039	Covington County	36,478
CO 01 041	Crenshaw County	13,635
CO 01 043	Cullman County	67,613
CO 01 045	Dale County	49,633
CO 01 047	Dallas County	48,130
CO 01 049	DeKalb County	54,651

ALABAMA
1990 Population Totals

Bureau of the Census
Department of Commerce

This table provides 1990 census population counts for states and governmental units. Since these counts provide only totals for the states and local governmental units, they are not suitable for redistricting. As required by Public Law 94-171, the Bureau of the Census will provide redistricting counts at the block level for all states and the District of Columbia. The counts will be released on a state-by-state basis beginning in early 1991 and ending by April 1, 1991.

The population counts set forth herein are subject to possible correction for undercount or overcount. The United States Department of Commerce is considering whether to correct these counts and will publish corrected counts, if any, not later than July 15, 1991.

(010491)

GOVERNMENTAL UNIT CODE	NAME	Number of Persons
CO 01 111	Randolph County	19,881
CO 01 113	Russell County	46,860
CO 01 115	St. Clair County	50,009
CO 01 117	Shelby County	99,358
CO 01 119	Sumter County	16,174
CO 01 121	Talladega County	74,107
CO 01 123	Tallapoosa County	38,826
CO 01 125	Tuscaloosa County	150,522
CO 01 127	Walker County	67,670
CO 01 129	Washington County	16,694
CO 01 131	Wilcox County	13,568
CO 01 133	Winston County	22,053
PL 01 0005	Abbeville city	3,173
PL 01 0010	Adamsville city	4,161
PL 01 0015	Addison town	626
PL 01 0020	Akron town	468
PL 01 0025	Alabaster city	14,732
PL 01 0030	Albertville city	14,507
PL 01 0035	Alexander City city	14,917
PL 01 0040	Aliceville city	3,009
PL 01 0045	Allgood town	464
PL 01 0050	Altoona town	960
PL 01 0055	Andalusia city	9,269
PL 01 0057	Anderson town	339
PL 01 0060	Anniston city	26,623
PL 01 0065	Arab city	6,321
PL 01 0070	Ardmore town	1,090

Table 1. Selected Population and Housing Characteristics: 1990
Calhoun County, Alabama

The population counts set forth herein are subject to possible correction for undercount or overcount. The United States Department of Commerce is considering whether to correct these counts and will publish corrected counts, if any, not later than July 15, 1991. The user should note that there are limitations to many of these data. Please refer to the technical documentation provided with Summary Tape File 1A for a further explanation on the limitations of the data.

Total population	116,034
SEX	
Male	56,058
Female	59,976
AGE	
Under 5 years	7,379
5 to 17 years	21,599
18 to 20 years	7,518
21 to 24 years	7,449
25 to 44 years	35,248
45 to 54 years	11,855
55 to 59 years	5,396
60 to 64 years	5,213
65 to 74 years	8,607
75 to 84 years	4,602
85 years and over	1,168
Median age	32.7
Under 18 years	28,978
Percent of total population	25.0
65 years and over	14,377
Percent of total population	12.4
HOUSEHOLDS BY TYPE	
Total households	42,983
Family households (families)	31,718
Married-couple families	25,111
Percent of total households	58.4
Other family, male householder	1,261
Other family, female householder	5,346
Nonfamily households	11,265
Percent of total households	26.2
Householder living alone	9,965
Householder 65 years and over	4,215
Persons living in households	111,127
Persons per household	2.59
GROUP QUARTERS	
Persons living in group quarters	4,907
Institutionalized persons	954
Other persons in group quarters	3,953
RACE AND HISPANIC ORIGIN	
White	92,873
Black	21,578
Percent of total population	18.6
American Indian, Eskimo, or Aleut	296
Percent of total population	0.3
Asian or Pacific Islander	869
Percent of total population	0.7
Other race	418
Hispanic origin (of any race)	1,282
Percent of total population	1.1

Total housing units	46,753
OCCUPANCY AND TENURE	
Occupied housing units	42,983
Owner occupied	30,222
Percent owner occupied	70.3
Renter occupied	12,761
Vacant housing units	3,770
For seasonal, recreational, or occasional use	131
Homeowner vacancy rate (percent)	1.8
Rental vacancy rate (percent)	10.6
Persons per owner-occupied unit	2.62
Persons per renter-occupied unit	2.50
Units with over 1 person per room	997
UNITS IN STRUCTURE	
1-unit, detached	33,136
1-unit, attached	805
2 to 4 units	2,275
5 to 9 units	1,392
10 or more units	2,040
Mobile home, trailer, other	7,105
VALUE	
Specified owner-occupied units	22,182
Less than $50,000	10,572
$50,000 to $99,999	9,958
$100,000 to $149,999	1,188
$150,000 to $199,999	290
$200,000 to $299,999	131
$300,000 or more	43
Median (dollars)	51,600
CONTRACT RENT	
Specified renter-occupied units paying cash rent	11,079
Less than $250	6,619
$250 to $499	4,166
$500 to $749	282
$750 to $999	8
$1,000 or more	4
Median (dollars)	218
RACE AND HISPANIC ORIGIN OF HOUSEHOLDER	
Occupied housing units	42,983
White	35,593
Black	6,990
Percent of occupied units	16.3
American Indian, Eskimo, or Aleut	126
Percent of occupied units	0.3
Asian or Pacific Islander	164
Percent of occupied units	0.4
Other race	110
Hispanic origin (of any race)	314
Percent of occupied units	0.7

ATTACHMENT 20

STATE OF ALABAMA DEPARTMENT OF EDUCATION
LEA PERSONNEL SYSTEM / ATTENDANCE - (EDLP6ECS)
TOTAL ENROLLMENT, CERTIFIED PERSONNEL, AND SUPPORT PRESONNEL
BY SYSTEM AND SCHOOL
FOR SCHOOL YEAR 1997-98

SYSTEM	SCHOOL	TOTAL ENROLLMENT	TOTAL CERTIFIED PERSONNEL	TOTAL SUPPORT PERSONNEL	TOTAL POPULATION
BUTLER COUNTY	GEORGIANA HIGH SCHOOL	455	33	11	499
	GREENVILLE HIGH SCHOOL	867	55	15	937
	GREENVILLE MIDDLE SCHOOL	885	59	17	961
	MC KENZIE HIGH SCHOOL	371	26	11	408
	R L AUSTIN ELEMENTARY SCH	342	27	14	383
	W O PARMER SCHOOL	1,069	68	31	1,168
	BUTLER COUNTY AREA VOC SCH		6	2	8
CALHOUN COUNTY	ALEXANDRIA ELEMENTARY SCH	626	40	19	685
	ALEXANDRIA HIGH SCHOOL	981	60	29	1,070
	BYNUM ELEMENTARY SCHOOL	196	13	10	219
	COLDWATER ELEMENTARY SCHOOL	273	18	19	310
	COOSA VAL REG DETENTION CTR	54	18	19	91
	DE ARMANVILLE JR HIGH SCH	402	24	11	437
	OHATCHEE SCHOOL	931	51	24	1,006
	PLEASANT VALLEY HIGH SCHOOL	1,072	60	25	1,157
	SAKS ELEMENTARY SCHOOL	728	44	22	794
	SAKS HIGH SCHOOL	805	44	16	865
	SAKS MIDDLE SCHOOL	468	25	18	511
	WEAVER ELEMENTARY SCHOOL	733	42	33	808
	WEAVER HIGH SCHOOL	631	34	11	676
	WELLBORN HIGH SCHOOL	884	53	19	956
	WELLBORN ELEMENTARY SCHOOL	770	46	28	844
	WHITE PLAINS HIGH SCHOOL	709	44	17	770
	CALHOUN COUNTY AREA VOC CTR		25	3	28
CHAMBERS COUNTY	FAIRFAX ELEMENTARY SCHOOL	592	36	17	645
	FIVE POINTS ELEMENTARY SCH	232	20	7	259
	HUGULEY ELEMENTARY SCHOOL	406	25	12	443
	LAFAYETTE EASTSIDE ELEM SCH	543	37	19	599
	LAFAYETTE HIGH SCHOOL	417	32	10	459
	LAFAYETTE LANIER ELEM SCH	307	21	11	339
	LAFAYETTE S SIDE MIDDLE SCHOOL	288	24	9	321
	BOB HARDING-SHAWMUT ELEM	263	21	13	297
	VALLEY HIGH SCHOOL	739	45	13	797
	W F BURNS JR HIGH SCHOOL	415	28	8	451
	CHAMBERS COUNTY AREA VOCCTR		13	2	15
CHEROKEE COUNTY	CEDAR BLUFF HIGH SCHOOL	572	37	17	626
	CENTRE ELEMENTARY SCHOOL	787	48	23	858
	CENTRE MIDDLE SCHOOL	332	23	8	363
	CHEROKEE COUNTY HIGH SCHOOL	478	30	10	518
	GAYLESVILLE HIGH SCHOOL	489	33	14	536
	SAND ROCK HIGH SCHOOL	843	51	19	913
	SPRING GARDEN HIGH SCHOOL	383	25	11	419
	CHEROKEE CO CAREER & TECH CEN		17	6	23
CHILTON COUNTY	CHILTON COUNTY HIGH SCHOOL	643	39	13	695
	CLANTON ELEMENTARY SCHOOL	1,043	63	29	1,135
	HENRY M ADAIR SCHOOL	753	43	16	812

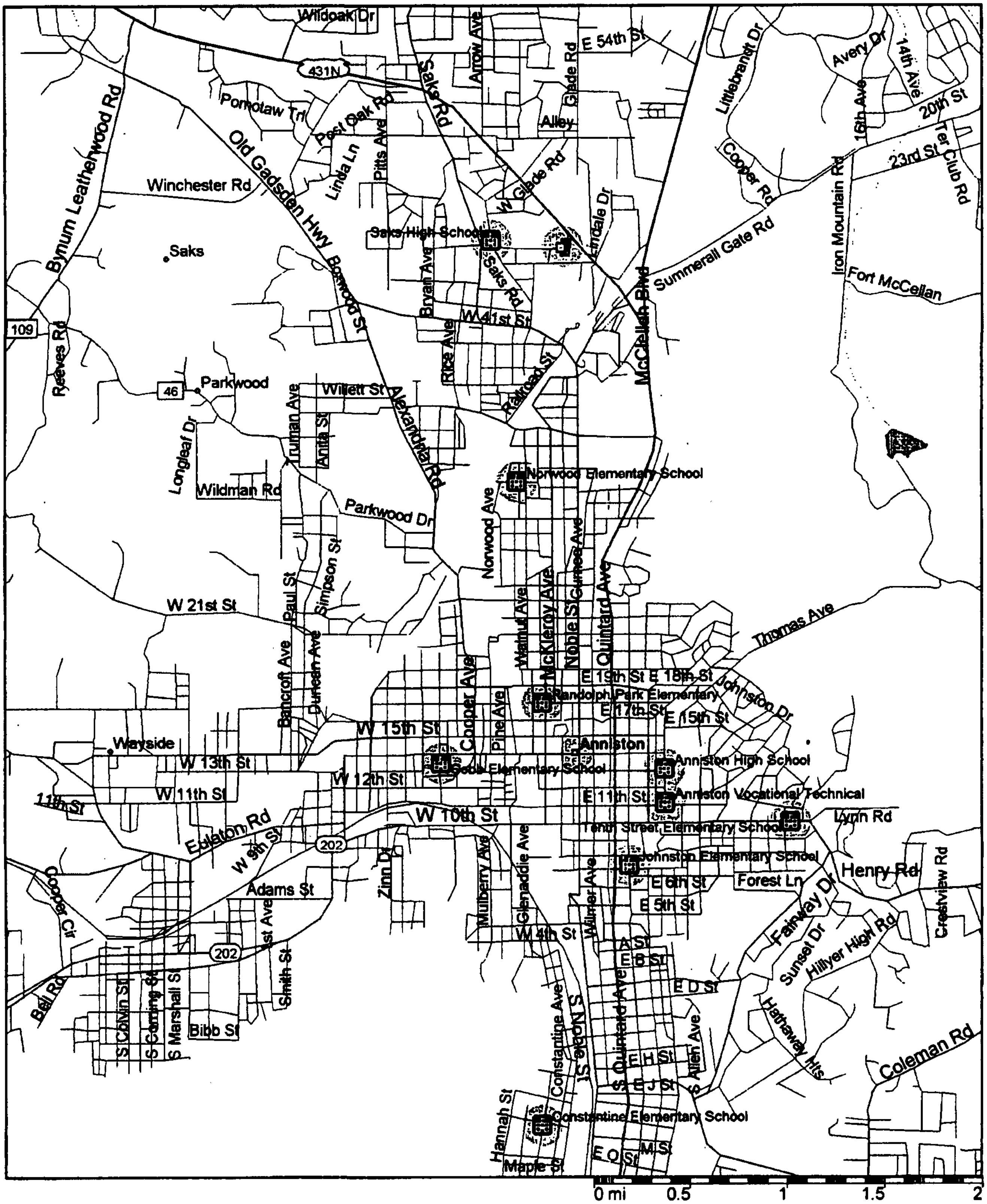
STATE OF ALABAMA DEPARTMENT OF EDUCATION
LEAPS PERSONNEL SYSTEM (EDLPF472)
TOTAL ENROLLMENT, CERTIFICATED PERSONNEL, AND SUPPORT PERSONNEL
BY SYSTEM AND SCHOOL
FOR SCHOOL YEAR 1995 - 96

SYSTEM	SCHOOL NAME	TOTAL ENROLLMENT	TOTAL CERTIFICATED PERSONNEL	TOTAL SUPPORT PERSONNEL	TOTAL POPULATION
BALDWIN COUNTY	SWIFT CONSOLIDATED ELEM SCH	135	11	5	151
	VAUGHN SCHOOL	51	5	5	61
BARBOUR COUNTY	BAKER HILL SCHOOL	288	19	8	316
	CLAYTON HIGH SCHOOL	361	25	8	394
	CLAYTON ELEMENTARY SCHOOL	284	22	14	320
	CLIO SCHOOL	190	15	8	213
	LOUISVILLE ELEMENTARY SCH	302	21	10	333
	LOUISVILLE HIGH SCHOOL	391	29	7	427
	REBECCA COMER SCHOOL	151	12	6	169
BIBB COUNTY	BIBB COUNTY HIGH SCHOOL	976	50	15	1,041
	BRENT ELEMENTARY SCHOOL	661	28	12	681
	CENTREVILLE ELEMENTARY SCH	625	44	14	683
	PROJECT BEACON SCHOOL	26	7		33
	RANDOLPH ELEMENTARY SCHOOL	219	14	5	238
	WEST BLOCTON ELEMENTARY SCH	372	29	11	412
	WEST BLOCTON HIGH SCHOOL	592	30	13	635
	WOODSTOCK ELEMENTARY SCHOOL	405	26	9	440
BLOUNT COUNTY	APPALACHIAN HIGH SCHOOL	531	32	16	579
	BLOUNTSVILLE ELEMENTARY SCH	629	38	16	683
	CLEVELAND HIGH SCHOOL	796	54	22	872
	HAYDEN ELEMENTARY SCHOOL	675	41	17	733
	HAYDEN HIGH SCHOOL	570	28	9	607
	HAYDEN MIDDLE SCHOOL	384	19	11	414
	J B PENNINGTON HIGH SCHOOL	520	27	13	560
	LOCUST FORK HIGH SCHOOL	1,057	56	19	1,132
	SOUTHEASTERN ELEMENTARY SCH	270	17	11	298
	SUSAN MOORE HIGH SCHOOL	1,025	55	20	1,100
BULLOCK COUNTY	MERRITT ELEM SCHOOL	233	15	15	263
	SOUTH HIGHLANDS ELEM SCHOOL	532	27	21	580
	UNION SPRINGS ELEM SCHOOL	418	29	24	471
	BULLOCK COUNTY HIGH SCHOOL	806	44	14	864
BUTLER COUNTY	GEORGIANA HIGH SCHOOL	475	29	12	516
	GREENVILLE HIGH SCHOOL	850	56	14	920
	GREENVILLE MIDDLE SCHOOL	973	59	14	1,046
	MC KENZIE HIGH SCHOOL	362	25	10	397
	R L AUSTIN ELEMENTARY SCH	386	28	16	430
	W O PARMER SCHOOL	1,127	70	36	1,233
CALHOUN COUNTY	ALEXANDRIA ELEMENTARY SCH	608	37	16	661
	ALEXANDRIA HIGH SCHOOL	1,102	55	28	1,185
	BYNUM ELEMENTARY SCHOOL	175	12	10	197

STATE CF ALABAMA DEPARTMENT OF EDUCATION
LEAPS PERSONNEL SYSTEM (EDLPF472)
TOTAL ENROLLMENT, CERTIFICATED PERSONNEL, AND SUPPORT PERSONNEL
BY SYSTEM AND SCHOOL
FOR SCHOOL YEAR 1995 - 96

SYSTEM	SCHOOL NAME	TOTAL ENROLLMENT	TOTAL CERTIFICATED PERSONNEL	TOTAL SUPPORT PERSONNEL	TOTAL POPULATION
CALHOUN COUNTY	COLDWATER ELEMENTARY SCHOOL	473	23	17	513
	CCOSA VAL REG DETENTION CTR		1		1
	DE ARMANVILLE JR HIGH SCH	402	24	13	439
	OHATCHEE SCHOOL	938	48	21	1,007
	PLEASANT VALLEY HIGH SCHOOL	1,027	54	25	1,106
	SAKS ELEMENTARY SCHOOL	687	39	19	745
	SAKS HIGH SCHOOL	781	41	16	838
	SAKS MIDDLE SCHOOL	508	26	16	550
	WEAVER ELEMENTARY SCHOOL	739	41	28	808
	WEAVER HIGH SCHOOL	650	33	11	694
	WELLBORN HIGH SCHOOL	923	54	15	992
	WELLBORN ELEMENTARY SCHOOL	735	41	25	801
	WHITE PLAINS HIGH SCHOOL	678	39	12	729
CHAMBERS COUNTY	FAIRFAX ELEMENTARY SCHOOL	552	33	16	601
	FIVE POINTS ELEMENTARY SCH	254	18	9	281
	HUGULEY ELEMENTARY SCHOOL	378	25	13	416
	LAFAYETTE EASTSIDE ELEM SCH	381	24	14	419
	LAFAYETTE HIGH SCHOOL	432	32	10	474
	LAFAYETTE LANIER ELEM SCH	299	21	12	332
	LAFAYETTE S SIDE ELEM SCH	492	29	20	541
	BOB HARDING-SHAWMUT ELEM	219	18	10	247
	VALLEY HIGH SCHOOL	710	42	13	765
	VALLEY JR HIGH SCHOOL	426	25	8	459
CHEROKEE COUNTY	CEDAR BLUFF HIGH SCHOOL	582	38	14	634
	CENTRE ELEMENTARY SCHOOL	719	47	19	785
	CENTRE MIDDLE SCHOOL	391	27	9	427
	CHEROKEE COUNTY HIGH SCHOOL	475	26	11	512
	GAYLESVILLE HIGH SCHOOL	468	29	12	509
	SAND ROCK HIGH SCHOOL	761	47	18	826
	SPRING GARDEN HIGH SCHOOL	398	24	11	433
CHILTON COUNTY	CHILTON COUNTY HIGH SCHOOL	659	39	14	712
	CLANTON ELEMENTARY SCHOOL	991	64	27	1,082
	HENRY M ADAIR SCHOOL	739	42	14	795
	ISABELLA HIGH SCHOOL	548	35	11	594
	JEMISON ELEMENTARY SCHOOL	846	53	9	908
	JEMISON HIGH SCHOOL	682	41	21	744
	MAPLESVILLE HIGH SCHOOL	575	39	11	625
	THORSBY HIGH SCHOOL	655	40	12	707
	VERBENA HIGH SCHOOL	562	40	15	617
CHOCTAW COUNTY	BUTLER ELEMENTARY SCHOOL	522	35	14	571
	CHOCTAW COUNTY HIGH SCHOOL	567	38	15	620
	LISMAN JUNIOR HIGH SCHOOL	348	25	13	386

Anniston Area Schools



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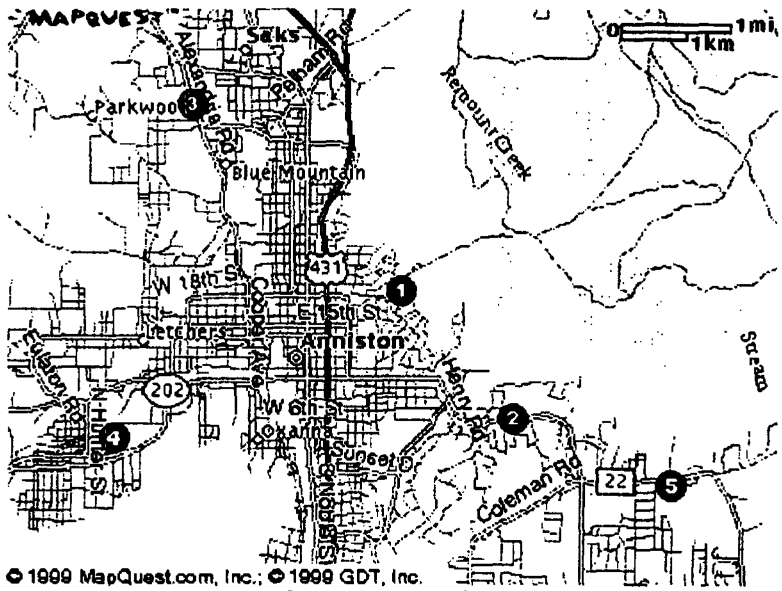

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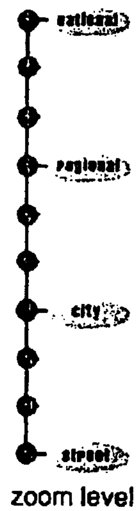

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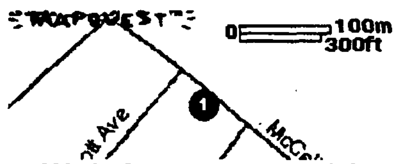
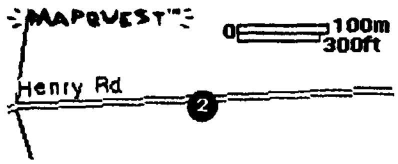
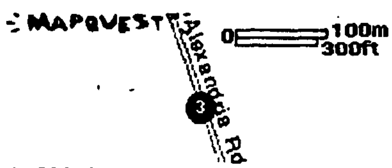
5 Closest Point(s) of Interest



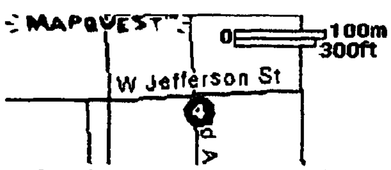
1. SACRED HEART CATHOLIC SCHOOL
1821 MCCALL DR. ANNISTON, AL 36207
Distance: *0.10 miles from the center*



2. DONOHO UPPER SCHOOL
2501 HENRY RD, ANNISTON, AL 36207
Distance: *1.54 miles from the center*

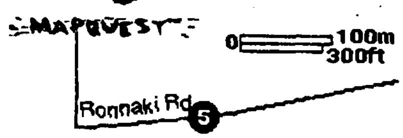


3. VINEYARD CHRISTIAN ACADEMY
3511 ALEXANDRIA RD. ANNISTON, AL 36201
Distance: *2.49 miles from the center*



4. FOURSQUARE CHRISTIAN ACADEMY
305 EMBRY ST. ANNISTON, AL 36201
Distance: *2.85 miles from the center*

5. FAITH CHRISTIAN SCHOOL
4100 RONNAKI RD. ANNISTON, AL 36207
Distance: *3.05 miles from the center*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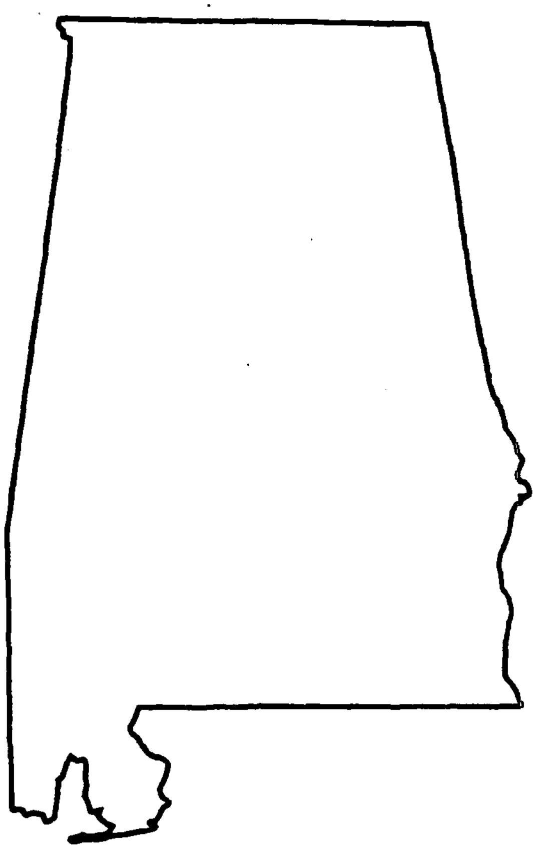
science for a changing world

Water Resources Data Alabama Water Year 1999

Water-Data Report AL-99-1



U.S. Department of the Interior
U.S. Geological Survey

Prepared in cooperation with the Alabama Department of Environmental Management, the Alabama Department of Transportation, and with other State, municipal, and Federal agencies

02404400 CHOCCOLOCCO CREEK AT JACKSON SHOALS NEAR LINCOLN, AL

LOCATION.--Lat 33°32'54", long 86°06'49", in SE$^1/_4$SE$^1/_4$ sec. 15, T. 17 S., R. 5 E., Talladega County, Hydrologic Unit 03150106, on left bank at foot of Jackson Shoals, 50 ft upstream from Alabama Power Company Jackson Shoals transformer station, 900 ft upstream from highway bridge, 1.8 mi downstream from Eastaboga Creek, and 4.5 mi southeast of Lincoln.
DRAINAGE AREA.--481 mi^2.
PERIOD OF RECORD.--October 1960 to September 1967, October 1967 to September 1970 (annual peak discharge only), October 1970 to September 1974 (gage-height record only in files of Geological Survey), October 1974 to September 1984 (flood hydrograph only), October 1984 to current year.
REVISED RECORD.--WSP 1906: 1961, 1962. WDR AL-84-1: Drainage area.
GAGE.--Water-stage recorder. Elevation of gage is 448.50 ft above sea level (Alabama Power Company benchmark).
REMARKS.--No estimated daily discharges. Records good. Several observations of specific conductance and water temperature were made during the year and are published under MISCELLANEOUS WATER-QUALITY SITES in this report.
EXTREMES OUTSIDE OF PERIOD OF RECORD.--Flood of March 1951 reached a stage of 42.4 ft from floodmarks.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	239	173	205	427	2850	807	1310	468	330	1270	309	179
2	221	174	203	407	2250	715	1210	431	314	898	290	174
3	211	184	208	514	1680	1120	1040	408	317	1050	276	176
4	192	181	209	498	1330	1270	920	392	312	934	262	172
5	239	179	212	438	1080	1100	828	386	524	752	255	169
6	291	181	207	405	920	1180	828	521	536	610	250	173
7	256	175	207	388	827	1150	1010	688	380	572	243	172
8	275	185	212	372	757	972	865	804	340	738	252	164
9	251	216	213	432	692	1140	788	729	319	672	289	171
10	242	243	207	610	1140	1130	732	627	307	494	262	185
11	228	419	215	492	1280	1010	677	537	302	468	248	176
12	219	328	215	445	1070	912	622	477	321	1390	238	167
13	216	289	250	419	908	897	576	472	315	961	233	161
14	210	282	257	444	759	2400	551	485	304	710	225	159
15	203	367	252	999	687	1940	664	448	358	597	220	159
16	201	346	245	955	643	1480	608	413	323	534	217	156
17	197	332	234	751	653	1220	553	393	456	495	213	150
18	195	298	222	658	836	1040	511	388	361	465	208	147
19	195	270	219	586	856	921	488	471	312	446	210	144
20	196	255	222	526	873	839	474	460	284	463	206	148
21	193	241	223	488	824	1140	461	409	271	429	201	157
22	191	231	243	478	720	1100	441	380	284	436	193	158
23	187	228	277	2270	652	970	433	373	270	414	195	149
24	185	224	606	2710	611	900	423	393	444	389	231	145
25	187	220	720	1750	574	1060	644	370	504	390	240	144
26	185	218	585	1270	550	1070	518	357	430	353	238	136
27	184	214	453	1030	547	929	496	345	701	347	210	137
28	182	212	461	835	891	841	547	331	1480	325	201	146
29	178	208	589	689	—	781	601	319	1470	321	195	160
30	173	206	586	818	—	735	514	310	1470	355	192	175
31	177	—	493	2350	—	839	—	320	—	323	187	—
TOTAL	6499	7277	9650	25454	27460	33608	20321	13915	14319	18501	7189	4809
MEAN	210	243	311	821	981	1084	677	449	477	597	232	160
MAX	291	419	720	2710	2850	2400	1310	804	1480	1390	309	185
MIN	173	173	203	372	547	715	423	310	284	321	187	136
CFSM	.44	.50	.65	1.71	2.04	2.25	1.41	.93	.99	1.24	.48	.33
IN.	.50	.56	.75	1.97	2.12	2.60	1.57	1.08	1.11	1.43	.56	.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	339	439	617	1019	1601	1611	1071	669	514	443	369	299
MAX	1792	1572	2028	2273	4066	3625	2150	1576	1676	1259	1697	709
(WY)	1996	1993	1962	1993	1961	1990	1964	1991	1997	1989	1967	1992
MIN	140	175	222	223	308	350	225	179	143	138	156	160
(WY)	1988	1988	1988	1986	1986	1988	1986	1986	1986	1986	1988	1999

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1961 - 1999	
ANNUAL TOTAL	337484		189002			
ANNUAL MEAN	925		518		744	
HIGHEST ANNUAL MEAN					1148	1996
LOWEST ANNUAL MEAN					221	1986
HIGHEST DAILY MEAN	8280	Feb 4	2850	Feb 1	28300	Apr 30 1963
LOWEST DAILY MEAN	173	Oct 30	136	Sep 26	105	Aug 8 1986
ANNUAL SEVEN-DAY MINIMUM	177	Oct 29	145	Sep 22	108	Aug 3 1986
INSTANTANEOUS PEAK FLOW			3670	Jan 23	36900	Apr 30 1963
INSTANTANEOUS PEAK STAGE			22.92	Jan 23	39.98	Apr 30 1963
ANNUAL RUNOFF (CFSM)	1.92		1.08		1.55	
ANNUAL RUNOFF (INCHES)	26.10		14.62		21.03	
10 PERCENT EXCEEDS	2130		1040		1480	
50 PERCENT EXCEEDS	457		388		414	
90 PERCENT EXCEEDS	200		180		194	

02403396 CHOCCOLOCCO CREEK AT OXFORD, AL

LOCATION.--Lat 33°36'01", long 85°49'40", in NW1/4 sec. 32, T. 16 S., R. 8 E., Calhoun County, Hydrologic Unit 03150106, on left bank 75 ft downstream of bridge on Friendship Road, 0.2 mi downstream of Snow Creek, and 1 mi south of Oxford.
DRAINAGE AREA.--222 mi².
PERIOD OF RECORD.--May 1999 to current year.
GAGE.--Water-stage recorder. Datum of gage is 588.84 ft above sea level (levels by Natural Resource Conservation Service).
REMARKS.--No estimated daily discharges. Water-discharge records good. Several observations of specific conductance and water temperature were made during the year and are published under MISCELLANEOUS WATER-QUALITY SITES in this report.
EXTREMES FOR PERIOD MAY 26, 1999 TO SEPTEMBER 30, 1999.--Maximum discharge, 2,480 ft³/s, July 11, gage height, 9.37 ft; minimum daily discharge, 38 ft³/s, Sept. 25, 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	131	644	122	57
2	---	---	---	---	---	---	---	---	130	510	114	58
3	---	---	---	---	---	---	---	---	130	767	106	55
4	---	---	---	---	---	---	---	---	136	546	103	53
5	---	---	---	---	---	---	---	---	475	397	99	54
6	---	---	---	---	---	---	---	---	203	314	95	54
7	---	---	---	---	---	---	---	---	158	294	89	52
8	---	---	---	---	---	---	---	---	138	316	94	52
9	---	---	---	---	---	---	---	---	128	262	97	66
10	---	---	---	---	---	---	---	---	120	213	91	62
11	---	---	---	---	---	---	---	---	125	378	88	55
12	---	---	---	---	---	---	---	---	135	961	86	52
13	---	---	---	---	---	---	---	---	119	483	82	53
14	---	---	---	---	---	---	---	---	135	370	77	52
15	---	---	---	---	---	---	---	---	131	298	76	48
16	---	---	---	---	---	---	---	---	203	256	75	47
17	---	---	---	---	---	---	---	---	180	231	71	43
18	---	---	---	---	---	---	---	---	144	213	71	40
19	---	---	---	---	---	---	---	---	122	197	68	41
20	---	---	---	---	---	---	---	---	110	187	66	45
21	---	---	---	---	---	---	---	---	106	182	62	49
22	---	---	---	---	---	---	---	---	100	180	61	47
23	---	---	---	---	---	---	---	---	162	163	83	44
24	---	---	---	---	---	---	---	---	213	175	98	41
25	---	---	---	---	---	---	---	---	209	165	101	38
26	---	---	---	---	---	---	---	151	252	169	83	38
27	---	---	---	---	---	---	---	145	578	155	74	42
28	---	---	---	---	---	---	---	139	1000	142	70	43
29	---	---	---	---	---	---	---	130	872	159	67	62
30	---	---	---	---	---	---	---	128	1110	141	66	56
31	---	---	---	---	---	---	---	141	---	131	61	---
TOTAL	---	---	---	---	---	---	---	---	7754	9589	2596	1499
MEAN	---	---	---	---	---	---	---	---	258	309	83.7	50.0
MAX	---	---	---	---	---	---	---	---	1110	961	122	66
MIN	---	---	---	---	---	---	---	---	100	131	61	38
CFSM	---	---	---	---	---	---	---	---	1.16	1.39	.38	.23
IN.	---	---	---	---	---	---	---	---	1.30	1.61	.44	.25

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	---	---	---	---	---	---	---	---	258	309	83.7	50.0
MAX	---	---	---	---	---	---	---	---	258	309	83.7	50.0
(WY)	---	---	---	---	---	---	---	---	1999	1999	1999	1999
MIN	---	---	---	---	---	---	---	---	258	309	83.7	50.0
(WY)	---	---	---	---	---	---	---	---	1999	1999	1999	1999

USGS

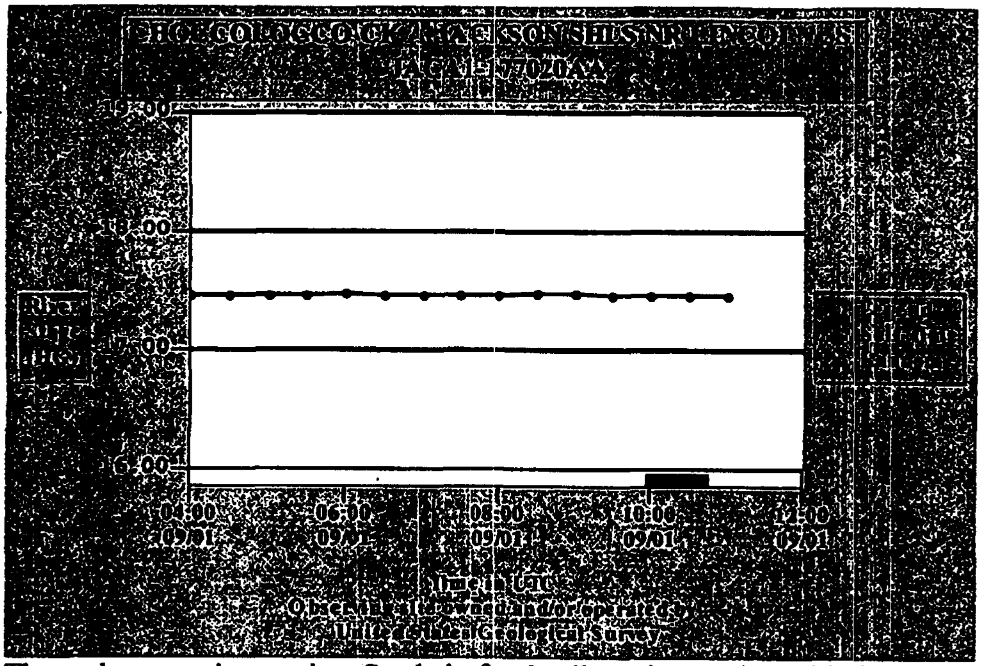
Alabama Current Streamflow Conditions

Updated Fri Sep 1, 2000 07:32

PROVISIONAL DATA SUBJECT TO REVISION--Select a station number to view graph(s) and other data for the station. A table of recent rainfall is also available.

Station Number	Station Name	Long-term median flow 09/01	Flow	Stage	Date/Time
CHATTAHOOCHEE RIVER BASIN					
02342500	Uchee Creek nr Fort Mitchell	47	4.8	0.36	09/01 07:00
02342933	So Fk Cowikee Cr nr Batesvill	9.8	1.8	1.96	09/01 04:30
02343801	Chatt River @ Andrews POOL	--	--	100.70	09/01 07:00
02343802	Chatt River @ Andrews TAIL	--	--	75.81	09/01 07:00
CHOCTAWHATCHEE RIVER BASIN					
02361000	Choctawhatchee R nr Newton	244	63	3.17	09/01 04:00
02362240	Lit Dou Brid Cr nr Enterprise	13	1.2	2.17	09/01 05:30
02363000	Pea River near Ariton	92	6.8	1.54	09/01 06:00
02364000	Pea River at Elba, AL.	--	--	1.86	09/01 04:00
ESCAMBIA RIVER BASIN					
02371500	Conecuh River at Brantley	122	18	0.58	09/01 03:00
02372422	Conecuh River nr River Falls	--	25	7.33	09/01 07:00
02373000	Sepulga R. nr McKenzie, AL	59	2.7	2.32	09/01 07:00
02374250	Conecuh River nr Brewton, AL	--	306	7.90	09/01 07:00
02374500	Murder Creek nr Evergreen, Al	116	30	2.17	09/01 07:00
02374700	Murder Creek at Brewton, Al	--	88	9.36	09/01 07:00
02374745	Burnt Corn Cr @41 nr Brewton	--	11	3.06	09/01 07:00
02374950	Big Escambia - Stanley Xroads	--	51	1.89	09/01 03:30
PERDIDO RIVER BASIN					
02376115	Elevenmile Cr nr Pensacola, F	70	51	4.40	09/01 06:00
02376500	Perdido River at Barrineau Pa	395	177	1.38	09/01 03:00
02377570	Styx River near Elsanor, AL	199	81	1.17	09/01 07:00
FISH RIVER BASIN					
02378300	Magnolia R at US98 nr Foley	--	10.0	2.82	09/01 07:00
02378500	Fish River near Silverhill	83	35	2.07	09/01 07:00
COOSA RIVER BASIN					
02398037	Chattooga R at Chattoog.., GA	--	92	1.96	09/01 08:00
02398300	Chattooga River nr Gaylesvill	168	113	4.00	09/01 04:00
02398950	W Fork Little R nr Ft Payne	0.2	1.2	1.78	09/01 07:15
02399200	Little River nr Blue Pond, AL	8.8	2.3	2.25	09/01 07:00
02399500	Coosa River at Leesburg, AL	--	--	560.80	09/01 07:00
02400100	Terrapin Creek at Ellisville,	114	72	7.47	09/01 07:00
02401000	Big Wills Creek nr Reece City	66	78	1.79	09/01 07:00
02401390	Big Canoe Creek at Ashville,	28	12	1.20	09/01 07:00
02403395	Choccolocco Cr at Oxford, Ala	--	28	2.73	09/01 07:00
02404400	Choccolocco Creek nr Lincoln,	240	140	17.46	09/01 07:00
02405500	Kelly Creek nr Vincent, AL	8.7	3.4	0.82	09/01 07:00
02408540	Hatchet Creek below Rockford	94	8.3	1.80	09/01 07:00
02411600	Coosa River at Wetumpka, AL	--	--	11.70	09/01 03:30
TALLAPOOSA RIVER BASIN					

Data Display for 177020AA



These charts are interactive. See help for details on interacting with the charts.

ATTACHMENT 22

ALABAMA DEPARTMENT OF PUBLIC HEALTH

The RSA Tower, 201 Monroe Street, P.O. Box 303017, Montgomery, AL 36130-3017
(334) 206-5300 • FAX (334) 206-5534 Web Site: http://www.alapubhealth.org

NEWS RELEASE

ADPH issues new fish consumption advisories

FOR IMMEDIATE RELEASE CONTACT: Neil L. Sass, Ph.D.
(334) 206-5941

The Alabama Department of Public Health announces that it is adding several fish consumption advisories, keeping most other advisories in place, and removing only one advisory on the Coosa River.

Advisories are issued because toxic chemicals in lakes or rivers accumulate in fish tissue. The people who eat these fish may face health risks. These advisories are updated based on the results of fish tissue monitoring conducted by the Alabama Department of Environmental Management.

A fish consumption advisory is being added for the Mobile River at and downstream from the confluence of Cold Creek. Additionally, new advisories are added for Chickasaw Creek in Mobile County and Bay Minette Creek in Baldwin County.

These new advisories are based upon high levels of mercury found in largemouth bass taken from these sampling sites. Blue catfish from the Mobile River site showed no accumulation of mercury.

Children (less than 15 years of age, because they are still developing) and women of childbearing age (either nursing, pregnant or planning to become pregnant) are especially at risk from damage produced by mercury and should avoid consumption of fish taken from this area. This is because there is a possibility that mercury could be transferred to the developing fetus, causing developmental problems.

"On the side of safety, individuals in all populations should refrain from consuming fish from any of these locations," said Dr. Neil Sass, environmental toxicologist with the Alabama Department of Public Health.

Mercury exists both as metallic mercury, as found in some thermometers, and in its organic

(more)

form of methylmercury. Both forms have been found to injure kidneys, stomach and large intestine following longterm exposure. Lower doses of methylmercury can cause birth defects and stillbirths. The nervous system is more susceptible to methylmercury than other parts of the body.

Results obtained from analyzing catfish taken at two sites on the Coosa River indicate that the levels of polychlorinated biphenyls (PCBs) have decreased sufficiently so that the previous advisories on these sites can be removed. The sites involve the Coosa River between the Neely Henry Dam and Riverside, Ala.

Advisories are issued because toxic chemicals in water, including lakes, rivers or the Gulf, accumulate in fish tissue. People who eat these fish may face health risks. Health risks are based on knowledge of the effects of the chemicals on populations or subpopulations of individuals within the state, including children, women of childbearing age, the elderly or persons with severe medical conditions.

Most fish advisories recommend that everyone avoid eating the species of fish listed in the defined area. Two advisories placed this year state that women of reproductive age and children less than 15 years of age should avoid eating certain fish from these areas. Others should limit their consumption of the particular species to one meal per month. Alabama has many water bodies, only some of which can be sampled each year.

Dr. Sass stated, "This sampling is conducted on a cyclical basis unless knowledge of a potentially hazardous condition dictates that a water body be sampled outside the normal cycle. Therefore, it is not necessarily possible to know whether conditions in any given body of water have changed enough during the year to allow the Alabama Department of Public Health to lift advisories placed during the previous years."

New advisories are as follows:
Mobile River at and downstream from the confluence of Cold Creek Swamp.
Do not consume largemouth bass from this area of the river.

Chickasaw Creek: Entire creek
Do not consume largemouth bass from this creek.

Bay Minette Creek: Entire creek
Do not consume largemouth bass from this creek.

(more)

The advisory being removed at this time is for the Coosa River between Neely Henry Dam and Riverside, Ala.

Advisories issued in the past that are still in effect are as follows:
Fowl River: Entire river
Do not consume largemouth bass from this river.

Lay Lake: The length of the Coosa River that extends from Logan Martin Dam to Lay Dam. Do not eat striped bass taken from Lay Lake.

Coosa River: Lay Lake that extends between the Logan Martin Dam and the railroad tracks crossing the Coosa River near Vincent. Do not consume spotted bass, crappie or catfish over one pound.

Logan Martin Lake: Logan Martin Lake from Riverside, Ala., to Logan Martin Dam. Do not consume any species of bass, crappie or catfish.

Choccolocco Creek: Between the confluence of Hillabee Creek and Choccolocco Creek south of Oxford, downstream to where Choccolocco Creek flows into Logan Martin Dam. Do not consume any fish.

Cold Creek Swamp: 10 miles south of the confluence of the Tombigbee River and Alabama River adjacent to the Mobile River.
Do not consume any fish.

Coosa River: Between the Alabama-Georgia State line and Weiss Dam

Limited consumption of catfish over 1 pound. This means women of reproductive age and children less than 15 years old should avoid eating certain fish from these areas. Other people should limit their consumption of the particular species to one meal per month.

Between Riverside and the Logan Martin Dam
Do not consume any species of catfish, crappie or bass (including largemouth, spotted, striped, hybrid striped and white bass.

Between Logan Martin Dam and the railroad tracks crossing the Coosa River near Vincent.
Do not consume bass, striped bass, crappie or catfish over 1 pound.

Lay Lake between Logan Martin Dam and Lay Dam
Do not consume striped bass.

Fish River: Entire river
Do not consume largemouth bass.

Fowl River: Entire river
Do not consume largemouth bass.

(more)

Advisory
Add three

Gulf Coast: Entire coast
Do not consume king mackerel over 39 inches.
Limited consumption of king mackerel under 39 inches.
Women of reproductive age and children less than 15 years old should avoid eating king mackerel from these areas. Other people should limit their consumption of the species to one meal per month.

Huntsville Spring Branch and Indian Creek: From Redstone Arsenal to the Tennessee River.
Do not consume channel catfish, smallmouth buffalo, brown bullhead, bigmouth buffalo or white bass.

Tombigbee River: Olin Basin at river mile 60.5.
Do not consume largemouth bass and channel catfish.
West Point Lake to Lake Harding: West Point Lake, Lake Harding and the intervening stretch of the Chattahoochee River.
Do not consume catfish.

Chattahoochee
0.01 0.03 0.04 0.01 0.04 0.15 0.08 0.81 0.00 0.04 0.01 0.01 0.18 0.04 0.01 0.06 0.33 0.14
0.36 0.55 0.52 0.88 0.37 2.15 0.56 0.56 0.80 0.28 0.75 0.81 0.36

~~Hatchee~~
0.24 1.63 3.37 1.30 0.53 3.82 1.51 0.68
13.08
~~Hatchee~~
Cahaba

0.18 0.16 0.04 0.13
.51

0.58 1.97 1.85 0.20
1.58

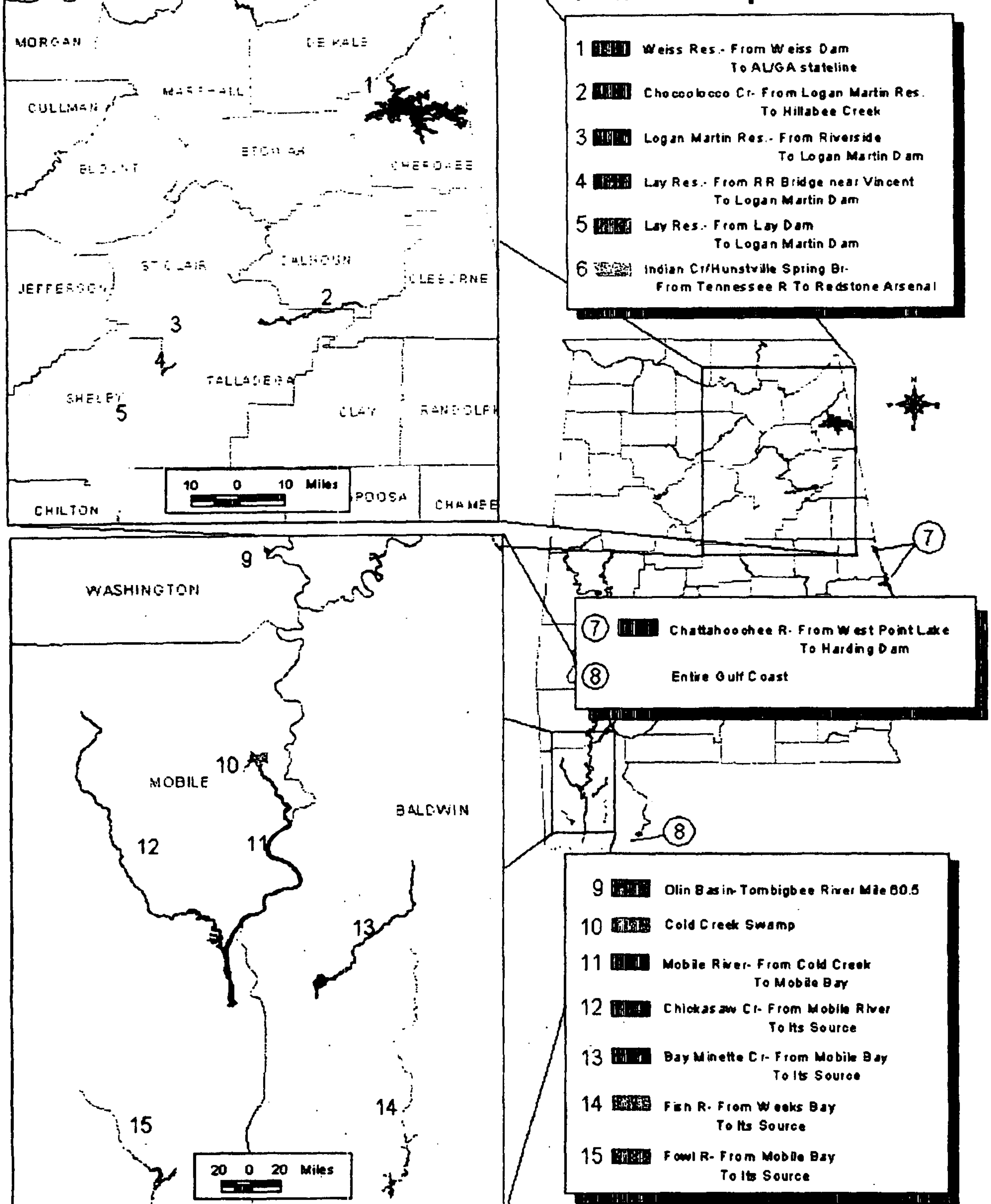
0.2 1.85 1.97 0.58

0.57 0.48 0.51 0.04
0.76 0.70 1.08 0.61

Clip 54 52 50 49 48 47 46 45 44 43
Cha 2
Clip 42
Oak Mountain Lakes
Clip 41
" 40
" 39

Up Lay
0.15
0.17
6.80
1.12

1999 Alabama Fish Consumption Advisories



Source: Alabama Department of Public Health Press Release [illegible]

1999 Alabama Fish Consumption Advisories

Map Number	Waterbody	From	To	Species	Advisory	Pollutant
1	Coosa River/Weiss Lake	Weiss Dam	AL/GA stateline	Catfish > 1 pound	Limmited Consumption	PCBs
2	Choccolocco Creek	Logan Martin Reservoir	Hillabee Creek	Any fish species	No Consumption	PCBs
3	Coosa River/Logan Martin Reservoir	Logan Martin Dam	Riverside, AL	Any species of Bass, Crappie, or Catfish	No Consumption	PCBs
4	Coosa River/Lay Lake	RR Bridge near Vincent	Logan Martin Dam	Spotted Bass Crappie Catfish > 1 pound	No Consumption	PCBs
5	Coosa River/Lay Lake	Lay Dam	Logan Martin Dam	Striped Bass	No Consumption	PCBs
6	Huntsville Spring Branch	Indian Creek	Redstone Arsenal	Channel Catfish Smallmouth Buffalo Brown Bullhead Bigmouth Buffalo White Bass	No Consumption	DDT
6	Indian Creek	Tennessee River	Redstone Arsenal	Channel Catfish Smallmouth Buffalo Brown Bullhead Bigmouth Buffalo White Bass	No Consumption	DDT
7	Chattahoochee River/ Lake Harding & West Point Lake	Harding Dam	West Point Lake	Any Catfish	No Consumption	Chlordane
8	Gulf Coast	Entire Coast		King Mackerell > 39 inches	No Consumption	Mercury
8	Gulf Coast	Entire Coast		King Mackerell < 39 inches	No Consumption	Mercury
9	Tombigbee River	Olin Basin at River Mile 60.5		Largemouth Bass Channel Catfish	No Consumption	Mercury DDT
10	Cold Creek Swamp	10 miles S. of Tombigbee River confluence: adjacent to Mobile River		Any fish species	No Consumption	Mercury
11	Mobile River	At and DS from Cold Creek Swamp	Mobile Bay	Largemouth Bass	No Consumption	Mercury
12	Chickasaw Creek	Mobile Bay	Its Source	Largemouth Bass	No Consumption	Mercury
13	Bay Minette Creek	Mobile Bay	Its Source	Largemouth Bass	No Consumption	Mercury
15	Fowl River	Mobile Bay	Its Source	Largemouth Bass	No Consumption	Mercury

DS=Downstream; > = Greater than; < = Less than

Source: Alabama Department of Public Health Press Release 11/16/99

Fish
1-800-201-8208

Mobile

#1

Kim Harrus f

Mobile Co.

Spring Branch
Moore Creek

Alabama Fish Consumption Advisories

(July 1997. This list subject to change)

Water Body	County	Species	Portion	Pollutant	Type Advisory
Coosa River (Area 1)	St. Clair Talladega	Catfish, Bass: largemouth, spotted, striped, hybrid striped & white	Between Logan Martin Dam & Riverside, AL.	PCBs[2]	No Consumption[1] Advisory
Coosa River (Area 2)	St. Clair Talladega	Crappie	From the mouth of Choccolocco Creek & the Coosa River to the mouth of Clear Creek & the Coosa River (This area is within Area 1.)	PCBs[2]	No Consumption[1] Advisory
Coosa River	St. Clair Shelby Talladega	Spotted bass, Catfish over 1 pound	Between Logan Martin Dam & the railroad tracks crossing the Coosa River near Vincent, AL.	PCBs[2]	No Consumption[1] Advisory
Coosa River	Cherokee St. Clair Etowah Talladega Calhoun	Catfish over 1 pound	Between Riverside, AL. & Georgia state line	PCBs[2]	Limited Consumption Advisory
Choccolocco Creek	Calhoun Talladega	All species	Between the confluence of Hillabee Creek & Choccolocco Creek south of Oxford, downstream to where Choccolocco Creek flows into Logan Martin Lake	PCBs[2]	No Consumption[1] Advisory
Huntsville Spring Branch & Indian Creek	Madison	Channel catfish, Smallmouth buffalo, Brown bullhead, Bigmouth buffalo, White bass	From Redstone Arsenal to the Tennessee River	DDT[2]	No Consumption[1] Advisory
West Point Lake to Lake Harding	Chambers Lee	Catfish	West Point Lake, Lake Harding & the intervening stretch of the Chattahoochee River	Chlordane[2]	No Consumption[1] Advisory
Cold Creek Swamp	Mobile	All species	Between river mile [illegible] just below Bayou [illegible] and river mile [illegible]	Mercury[3]	No Consumption[1] Advisory
Tombigbee River	Washington	Largemouth bass, Channel catfish	Olin Basin at river mile 60.5	Mercury[3] DDT[2]	No Consumption[1] Advisory
Fish River	Baldwin	Largemouth bass	Entire river	Mercury[3]	No Consumption[1] Advisory
Gulf Coast	Baldwin Mobile	King mackerel over 39 inches	Entire coast	Mercury[3]	No Consumption[1] Advisory
Gulf Coast	Baldwin Mobile	King mackerel under 39 inches	Entire coast	Mercury[3]	Limited Consumption Advisory

[1] No consumption advisory - Everyone should avoid eating the designated species of fish in the defined area.

[2] The U.S. EPA regards chlordane, DDT, and PCBs as probable human carcinogens. This indicates cancer causing ability determined in laboratory animals but not in humans.

[3] Mercury is non-carcinogenic. In extremely high levels, mercury affects the nervous system, kidney and fetus.

CURRENT FISH CONSUMPTION ADVISORIES IN ALABAMA

(INFORMATION SUPPLIED BY THE ALABAMA DEPARTMENT OF PUBLIC HEALTH)

RIVER	COUNTY	SPECIES	SPECIFIED SITE OF ADVISORY	POLLUTANT	TYPE ADVISORY
Coosa River	Calhoun, Cherokee, Etowah, St. Clair, Talladega	Catfish	Between Logan-Martin Dam and the Alabama Georgia State Line	PCB	Limited Consumption
Tributary to Coosa River	Calhoun	All species	Snow Creek from Oxford to confluence with Choccolocco Creek; Choccolocco Creek from Snow Creek to confluence with Logan Martin Lake	PCB	No Consumption
Tennessee River	Madison	Channel catfish Largemouth bass Smallmouth buffalo	One mile either side of the confluence of Indian Creek and Tennessee River	DDT	No Consumption
Tennessee River	Madison	Channel catfish	From confluence of Indian Creek & the Tennessee River to I- 65 bridge	DDT	No Consumption
Huntsville Spring Branch & Indian Creek	Madison	Channel catfish Brown bullhead Smallmouth buffalo White bass	From Redstone Arsenal to Tennessee River	DDT	No Consumption
West Point Lake to Lake Harding	Chambers, Lee	Catfish	West Point & Harding Lakes & the intervening stretch of the Chattahoochee River	Chlordane	No Consumption
Cold Creek Swamp	Mobile	All species	Site is adjacent to the Mobile River, & approximately 10 mi. south of the confluence of the Tombigbee and Alabama Rivers	Mercury	No Consumption
Tombigbee	Washington	Largemouth bass Channel catfish	Olin Basin about mile 60.5	DDT Mercury	No Consumption

LIMITED CONSUMPTION ADVISORY
Women of reproductive age and children less than 15 years old should avoid eating the specified fish from the specified areas. Other individuals should limit their consumption to once per month.

NO CONSUMPTION ADVISORY
Everyone should avoid eating the specified fish from the specified areas.

Table 3. ALABAMA FISH CONSUMPTION ADVISORIES
JUNE 1996

Waterbody	County	Specified Area	Contaminant	Specified Species	Advisory Type
1. Fish River	Baldwin	entire river	mercury	largemouth bass	no consumption
2. Cold Creek Swamp	Mobile	Cold Creek Swamp is located approx 10 miles south of the confluence of the Tombigbee and Alabama Rivers adjacent to the Mobile River	mercury	all species	no consumption
3. Olin Basin	Washington	Olin Basin Tombigbee River mile 60.5	DDT, mercury	largemouth bass, channel catfish	no consumption
4. Chattahoochee River	Chambers/Lee	West Point Lake, Lake Harding and all river between	chlordane	all species catfish	no consumption
5. Choccolocco Creek	Calhoun	from the confluence of Choccolocco and Hillabee Creeks down to Logan Martin Lake	PCBs/mercury	all species	no consumption
6. Coosa River	Talladega/StClair	from the Interstate 20 bridge at Riverside, AL down to the Logan Martin Dam	PCBs	largemouth bass, spotted bass, all species catfish	no consumption
7. Coosa River	Cherokee/Etowah/ Calhoun/StClair/ Talladega	from AL/GA state line down to interstate 20 bridge at Riverside, AL	PCBs	all species catfish > 1 lb	limited consumption
8. Huntsville Spring Branch and Indian Creek	Madison	from Redstone Arsenal down to Tennessee River	DDT	channel catfish, brown bullhead, smallmouth buffalo, bigmouth buffalo, white bass	no consumption

Limited Consumption Advisory : Women of reproductive age and children under 15 years of age should avoid eating the specified species of fish. from the specified area. All others should limit their consumption to one meal per month.

No Consumption Advisory : Everyone should avoid eating the specified species from the specified area.

Table 3. ALABAMA FISH CONSUMPTION ADVISORIES
JUNE 1996

	Waterbody	County	Specified Area	Contaminant	Specified Species	Advisory Type
1.	Fish River	Baldwin	entire river	mercury	largemouth bass	no consumption
2.	Cold Creek Swamp	Mobile	Cold Creek Swamp is located approx 10 miles south of the confluence of the Tombigbee and Alabama Rivers adjacent to the Mobile River	mercury	all species	no consumption
3.	Olin Basin	Washington	Olin Basin Tombigbee River mile 60.5	DDT, mercury	largemouth bass, channel catfish	no consumption
4.	Chattahoochee River	Chambers/Lee	West Point Lake, Lake Harding and all river between	chlordane	all species catfish	no consumption
5.	Choccolocco Creek	Calhoun	from the confluence of Choccolocco and Hillabee Creeks down to Logan Martin Lake	PCBs/mercury	all species	no consumption
6.	Coosa River	Talladega/StClair	from the Interstate 20 bridge at Riverside, AL down to the Logan Martin Dam	PCBs	largemouth bass, spotted bass, all species catfish	no consumption
7.	Coosa River	Cherokee/Etowah/ Calhoun/StClair/ Talladega	from AL/GA state line down to interstate 20 bridge at Riverside, AL	PCBs	all species catfish > 1 lb	limited consumption
8.	Huntsville Spring Branch and Indian Creek	Madison	from Redstone Arsenal down to Tennessee River	DDT	channel catfish, brown bullhead, smallmouth buffalo, bigmouth buffalo, white bass	no consumption

Limited Consumption Advisory : Women of reproductive age and children under 15 years of age should avoid eating the specified species of fish. from the specified area. All others should limit their consumption to one meal per month.

No Consumption Advisory : Everyone should avoid eating the specified species from the specified area.

CURRENT FISH CONSUMPTION ADVISORIES
(May 1994. This list subject to change)

Body of Water	County	Species	Portion	Pollutant	Type Advisory
Coosa River	Calhoun Cherokee Etowah St. Clair Talladega	Catfish	Between Logan Martin Dam and the Alabama-Georgia State line	PCBs[1]	Limited Consumption Advisory
Huntsville Spring Branch and Indian Creek	Madison	Channel catfish Smallmouth buffalo Brown bullhead Bigmouth buffalo White bass	From Redstone Arsenal to Tennessee River	DDT[1]	No Consumption Advisory
West Point Lake to Lake Harding	Chambers Lee	Catfish	West Point Lake, Lake Harding and the intervening stretch of the Chattahoochee River	Chlordane[1]	No Consumption Advisory
Cold Creek Swamp	Mobile	All species	The site is 10 miles south of the confluence of Tombigbee River and Alabama River adjacent to the Mobile River	Mercury[2]	No Consumption Advisory
Tennessee River	Madison	Channel catfish Largemouth bass Smallmouth buffalo	One mile either side of the confluence of Indian Creek and Tennessee River	DDT	No Consumption Advisory
Tennessee River	Madison	Channel catfish	From confluence of Indian Creek and Tennessee River to Interstate 65 bridge	DDT	No Consumption Advisory
Tombigbee River	Washington	Largemouth bass Channel catfish	Olin Basin, about river mile 60.5	Mercury DDT	No Consumption Advisory
Choccolocco Creek	Calhoun	All species	Between the confluence of Snow Creek and Choccolocco Creek south of Oxford, downstream to where Choccolocco Creek flows into Logan Martin Lake	PCBs	No Consumption Advisory

[1] The U.S. EPA regards chlordane, DDT, and PCBs as probable human carcinogens. This indicates cancer causing ability determined in laboratory animals but not in humans.

[2] Mercury is non-carcinogenic. In extremely high levels, mercury affects the nervous system, kidney and fetus.

ATTACHMENT 23

HEALTH CONSULTATION

Public Comment Release

EVALUATION OF SOIL, BLOOD & AIR DATA FROM ANNISTON, ALABAMA CALHOUN COUNTY, ALABAMA

CONCLUSIONS

1. ***PCBs in soil in some areas of Anniston present a public health hazard based on the potential for chronic cancerous and noncancerous health effects.***

   Detections of PCBs occur frequently in residential areas and the levels are high enough to indicate that a hazard does exist even if analytical methods have resulted in overestimates in some cases.

   Furthermore, residential soils in some areas of Anniston with higher levels of PCBs may present a public health hazard for thyroid and neurodevelopmental effects for intermediate exposure durations (less than 1 year of exposure).

2. Further characterization of areas reported to have elevated PCB levels is needed so that exposure point concentrations can be more accurately estimated and so the nature and extent of contamination can be better defined. Blood PCB data should be analyzed in conjunction with residential history information to aid in the identification of areas of potential soil PCB contamination.

3. Persons with elevated blood PCB levels (greater than 20 μg/L) for whom there is evidence of current exposure to soil contamination should be a focus of particular attention in future environmental characterization and public health actions.

4. Sampling and analytical methods are not adequately described for all of the data. This lack of information has caused us to make estimates of PCB exposure that may overestimate or underestimate health risk. For this reason, our estimates of exposure magnitude and our public health conclusions might change.

5. The reports of elevated blood PCBs in young children support the conclusion that exposures to PCBs have not ceased. The magnitude of PCB levels in blood in older persons (i.e., 41 of the persons aged 38 years or older had levels greater than 100 g/L) suggests that PCB exposures may have been more severe in the past. The higher proportion of detections of PCBs in the blood of older persons suggests that PCB exposures were more widespread in the past.

6. ***Exposures to PCBs in air present an indeterminate public health hazard.*** Uncertainty about the levels of PCBs in the air near Solutia over chronic exposure durations, combined with uncertainty regarding air levels to which persons would be exposed at their homes precludes a determination of whether PCBs in air presents a health hazard. Further characterization of the air pathway is needed so that exposure point concentrations can be estimated for persons living near the air monitors at which elevated PCB levels have been detected. Further characterization is also needed to define the limits of the area with elevated air levels for PCBs.

7. ATSDR's evaluation of the health hazard potential, particularly with regard to the size of the exposed population and the levels and duration of exposure, is limited by data gaps. Further sampling and evaluation are needed.

8. Exposures to the pesticides DDT and chlordane at levels of health concern are also possible; however,

given the levels in the available samples, it does not appear that exposures to pesticides are widespread. Too few samples were analyzed for pesticides to allow a more certain conclusion as to whether exposures to pesticides are occurring.

RECOMMENDATIONS

Following are ATSDR's recommendations, listed in order of priority.

1. Sample soil to assess whether average exposure point concentrations exceed levels of health concern for persons living at residences likely to be contaminated. Define "likely" as proximity to Solutia or PCB detections in the Community Group 1 or Community Group 2 data sets. Use blood PCB levels in conjunction with residential history information to help define areas where exposure point concentrations exceed levels of health concern.

2. Develop a site investigation plan (including records search and air and soil sampling) that addresses the potential for sources and local areas of PCB, dioxin/furan, and pesticide contamination.

3. Analyze CAP survey results along with residential and occupational information collected by Community Group 1 to characterize persons who have elevated blood PCB levels. Use this analysis for soil sampling plans and identification of environmental sources and pathways. Also use these analyses to help determine the need for exposure investigations (in coordination with the development of any studies of health effects) and to describe the size and geographic spread of the population with elevated blood PCBs.

4. Use future studies of health effects to be developed in consideration of community concerns. In addition, important data gaps could be filled through the study of PCB health effects in this highly exposed population. Primary consideration should be given to evaluation of specific health effects that have previously been associated with PCB exposure.

5. Use physiologically based pharmacokinetic modeling to describe the range of soil or air PCB exposure point concentrations that could conceivably lead to the observed blood PCB levels. This will improve our understanding of the likelihood that known soil or air levels could have caused the observed blood PCB levels.

6. Analyze spatial and temporal relationships between blood, soil, and air data in conjunction with additional data regarding residential, behavioral, and occupational history to determine the association, if any, between environmental contamination (in soil and air) and blood contamination.

7. Determine health education needs relevant to PCB exposure for this community.

PUBLIC HEALTH RESPONSE PLAN

A Public Health Response Plan is being developed to address the recommendations made in this consultation [38]. The Public Health Response Plan has been shared with EPA, Alabama Department of Environmental Management, and ADPH so that all agencies can coordinate their activities to better define the extent of environmental contamination and human exposures. Follow-up actions will be considered in coordination with the local community.

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Appendix A - *Previous ATSDR activities and site description*

Previous Agency for Toxic Substance and Disease Registry (ATSDR) and Alabama Department of Public Health (ADPH) activities in the West Anniston area

In 1995 and 1996, ADPH (under a cooperative agreement with ATSDR) assessed the potential for health effects caused by PCB contamination at this site. A health consultation was prepared in 1995 concerning PCB contamination discovered in soil and sediment at the West End Landfill (WEL) and in the Eastern Drainage Ditch (EDD) [39]. ADPH concluded that exposure to soil and sediment in WEL, EDD, Snow Creek, and Choccolocco Creek presented a public health hazard. ADPH recommended additional soil sampling to delineate areas where contaminant concentrations are high and an exposure investigation (EI) to determine the impact of offsite contamination on area residents.

In early 1996, ADPH and ATSDR conducted an EI for one West Anniston neighborhood near the Solutia facility [40]. The exposure investigation examined blood PCB levels for 103 persons in the Cobbtown/Sweet Valley Community (CT/SVC). Soil and indoor dust samples were also collected and examined for the EI. CT/SVC was described in the EI as an "old neighborhood that is comprised of approximately 35 houses, 2 churches, and 8 businesses" (Figure 7). Most of the houses considered in the 1996 EI have been purchased and demolished by Solutia. The EI found that PCB levels were elevated compared to background levels and levels of health concern in soil, sediment, indoor dust, and surface water. The EI also observed that a weak correlation existed between PCB levels in the soil and blood levels. The EI concluded that PCBs in soil, sediment, indoor dust, and surface water in CT/SVC was a public health hazard. The EI recommended sampling of residential yards in the area of CT/SVC.

ADPH prepared a public health assessment that considered soil PCB sampling (of drainage ditches and flood plain near the Solutia facility) conducted by Solutia prior to 1996 [41]. The data sets provided by EPA addressed in this consultation consisted of soil and air sampling data generated since 1996. The blood PCB data were also generated since 1996. The consultation presents conclusions regarding the potential for human health effects primarily for PCB contamination and exposure; however, a small number of soil samples describing pesticide contamination and a small number of blood dioxin analyses were also considered.

Site description

Brief description of the Solutia manufacturing facility. One presumed source for PCBs described in soil and air in at least some of the samples reviewed is the Solutia manufacturing facility in West Anniston (Figure 1). Other sources for PCB contamination may exist, but have not been clearly demonstrated to date. Other potential sources for contamination should be considered in an additional health assessment for the site and when a potential remediation is planned. However, the conclusions of this consultation do not rely on a definitive catalog of sources, so only a brief description of the one demonstrated source (Solutia) is provided.

The Solutia manufacturing facility is located one mile west of downtown Anniston on State Highway 202 in Calhoun County, Alabama. The facility is situated on approximately 70 acres and is bordered on the south by Highway 202, on the east by the Clydesdale Avenue extension, on the west by First Avenue, and on the north by the Norfolk Southern and Erie Railroads. The area north of Solutia contains residential, commercial, and industrial properties. Residential properties are also located east and west of the site (Figure 1) [42,43,44].

Chemical manufacturing has occurred at this site for more than 80 years. Monsanto produced hundreds of millions of pounds of PCBs in the U.S.[45] and the Anniston facility was one of 2 Monsanto PCB production facilities in the U.S. Millions of pounds of PCB-containing waste from that production may have been disposed of onsite.

In 1917, Southern Manganese Corporation began manufacturing ferro-manganese, ferro-silicon, ferro-phosphorus compounds, and phosphoric acid at the site. In the late 1920s, production of biphenyls was initiated. In 1930, Southern Manganese Corporation became Swann Chemical Company. Monsanto purchased Swann Chemical Company in 1935, and began manufacturing PCBs, parathion, phosphorous pentasulfide, para-nitrophenol, and polyphenyl compounds. Monsanto ceased production of PCBs in the early 1970s and ceased production of parathion and phosphorous pentasulfide in the mid-1980s. The Anniston facility now operates as Solutia, Incorporated. Para-nitrophenol and polyphenyl compounds are now manufactured at the site [46,47].

Landfills. Hazardous and nonhazardous wastes were disposed of at two landfills located adjacent to the Solutia manufacturing plant; the West End Landfill and the South Landfill (Figure 7).

The West End Landfill was a six-acre plot located on the southwest side of the manufacturing facility, north of Highway 202. The unlined landfill was used for disposal of all refuse from the facility from the mid 1930s to 1961. In November 1961, the West End Landfill and an adjacent property were exchanged to the Alabama Power Company. With the closure of the West End Landfill, Solutia began disposing of wastes at the South Landfill.

The South Landfill was located southeast of the manufacturing facility, south of Highway 202. It sits on the lower northeast slope of Coldwater Mountain. The South Landfill was divided into 10 individual cells, each intended to hold a specific type of waste. Due to disposal practices, there are two categories which can describe the cells, hazardous and non-hazardous. Operations at the South Landfill ended in 1988.

Some of the waste was from PCB manufacture and there is reference to millions of pounds of "still bottoms" and a manufacturing byproduct called "Montars" being deposited in open, uncovered piles until approximately 1970. Montars have been described as high-chlorine distillation residue from the PCB manufacturing process used by Monsanto prior to 1970 [48]. Surface stabilization measures constructed around the Solutia facility in 1971 are likely to have reduced the potential for offsite transport of PCBs [49].

Key surface water features. Snow Creek flows through Anniston north of the Solutia facility. A tributary of the creek begins northwest of the Solutia facility, and flows northeast until it reaches Boynton Street. It then flows south through residential and business areas. Snow Creek empties into Choccolocco Creek south of Interstate I-20.

East Drainage Ditch (EDD) begins in the area of the South Landfill just southeast of the Solutia facility. It flows northward through the Clydesdale community (between Clydesdale Avenue and Zinn Parkway) east of the Solutia facility and is joined south of Seventh St. by Solutia's waste water discharge ditch (which originates from an old limestone neutralization bed). The EDD continues along east of Montrose Avenue and Boynton Street, crosses under 10th Street and the the Norfolk, Southern, and Erie railroad tracks at 11th Street, and empties into Snow Creek.

Northern Drainage Ditch (NDD) consists of a series of ditches that run along the northern boundary of the Solutia facility. The NDD crosses north under railroad tracks to the southern ends of Bancroft and Duncan Streets, and then follows the railroad tracks northeast to join the EDD and Snow Creek. Most of the EDD consists of silt and clay, but some parts are concrete and extend below ground. The western end of the NDD appears to have some westerly flow, but the remaining portion of the NDD flows toward Snow Creek. Western Drainage Ditch (WDD), located west of the West End Landfill at the southwest corner of the Solutia facility. It runs north along the facility boundary east of 1st Avenue until it meets up with the NDD.

A site visit of the EDD and Snow Creek was performed by ATSDR and ADPH. Several important features were noted. Access was not restricted and human activity was evident in many areas. The upstream portion of Snow Creek flows through a concrete liner while the downstream portion remains unlined. The EDD averages roughly 2-3 feet deep and 3-5 feet wide, except in the Spring Street area where the ditch is 5-6 feet deep and approximately 5 feet wide. Also, the ditches have been known to flood during rain events. During meetings in Anniston on September 15 and November 9, 1999, community members told ATSDR that oily residue had (i.e., 20 years ago) frequently been observed on water flowing from the Solutia facility in the. drainage ditches, an observation also made by others [50].

Other potential sources for the contamination observed in environmental samples. Statements made by community members during public meetings in Anniston, and in letters and documents provided by Solutia suggested that other sources for PCBs are possible in addition to the Solutia facility. It has not been established that offsite PCB contamination is solely the result of air or surface water transport from PCB wastes generated by Solutia. ATSDR is not aware of additional investigations that identify other sources of PCB contamination. The additional sources suggested for PCB contamination in Anniston include foundry sand from metal casting operations and transformers and capacitors at an electric power substation.

Appendix B. - *Dioxin Comparison Levels*

Comparison values for dioxin-like compounds in blood serum are listed in Table 7. To derive these values, ATSDR pooled data from five studies that measured dioxin levels in residents of the United States who had no known exposure to dioxins, other than typical background levels. The studies contained a total population of approximately 360 persons from five states. The blood samples were collected during the time period, 1995 to 1998. The National Center for Environmental Health of the Centers for Disease Control and Prevention in Atlanta, Georgia, conducted the laboratory analyses using gas chromatography/isotope dilution-high resolution mass spectroscopy.

In some samples, the concentrations of one or more congeners were reported as not detected. For the statistical summary of total TEQs across the eight studies, the concentration of a non-detected congener was assumed to be one-half of the analytical detection limit. In some of the studies, analytical data (including detection limits) for one or more congeners were missing in some individuals because of analytical difficulties. For these persons, the TEQ concentration of the non-reported congener was assumed to be equal to the average TEQ for that congener for all other persons in their study. Two congeners (123478D and 123678D) were not reported for any persons for several of the studies. For the studies where these congeners were missing, the replacement value used was the average of the TEQ concentration for the congeners from studies where the congeners were reported.

The comparison levels in this report were based on a preliminary analysis of the available data. ATSDR will submit a more detailed report of these analyses and findings to a peer-reviewed, scientific journal for publication.

Appendix C. - *Health concerns expressed by the community*

During a November 9, 1999, public meeting in Anniston, approximately 75 community members expressed concerns regarding health effects (summarized in Table 11). [51]

Table 11. Self-Reported Health Concerns from Public Availability Session in Anniston, Alabama

Self-Reported Health Concerns	Number of Reports
Cancer	50
Cardiovascular Problems	46
Respiratory Problems	43
GI Problems	24
Skin Problems	22
Endocrine Problems	18
Musculoskeletal Problems	17
Birth Defects/Learning Disabilities	14
Immune Problems	12
Neuro Problems	11
Headaches	9
Blood Problems	7
Eye Problems	6
Kidney Problems	6
Infections	5
Reproductive Problems	4
Fatigue	4
Prostate Problems	1
Total	299

Community members also expressed complaints of odors which they attributed to the Solutia facility. The odors were described by some as resembling "rotten eggs" or "rotten cabbage" or "diesel fuel." Others described yellow dust settling on clothes and smoke or haze coming from or being seen in the area of the Solutia facility. Some stated that smells and dust were more prevalent in the 1960s. In addition, many persons expressed a desire to have their blood tested for PCBs [52].

REFERENCES

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2. ADPH. Public Health Assessment. Solutia, Incorporated/Monsanto Company, Anniston, Calhoun County, Alabama. CERCLIS No. ALD004019048. Prepared by Alabama Department of Public Health under a cooperative agreement with the Agency for Toxic Substances and Disease Registry. December 6,

1999.

3. Golder Associates. Incorporated. The Resource Conservation and Recovery Act (RCRA) Facility Investigation and Confirmatory Sampling (RFI/CS) Workplan for the Monsanto Company's Anniston, Alabama Facility, 1997.

4. Golder Associates, Incorporated. Data File: Summary of Sampling Locations, Descriptions and Results. Off-Site Areas for the Monsanto Company. Anniston, Calhoun County, Alabama.

5. Letter from Donald W. Stewart of Stewart and Smith. P.C. to David Baker of Community Against Pollution. Re: Monsanto PCB contamination. February 18, 1999.

6. Blood sample analysis was performed by one of the major commercial clinical laboratories that provides healthcare services in the United States (LabCorp). The Company's facilities perform diagnostic procedures on specimens from more than 240,000 patients each day. The laboratory offers more than 2,000 different clinical tests ranging from simple blood analyses to more sophisticated molecular diagnostic techniques.

   Test results are routinely monitored for reliability, precision, and accuracy by both internal and external quality control programs, including the College of American Pathologists. Continued acceptable performance on these surveys is a prerequisite for continued licensure and certification of the laboratory. The laboratory voluntarily participates in more than 20 external quality control programs and is inspected by state, federal, and private accrediting agencies. Standard operating procedures (SOPs) include repeat of assays when controls are out of established ranges or where the coefficient of variation for the assay is too high. It is also the policy of the laboratory to repeat individual samples that are significantly abnormal clinically or where duplicate test results disagree. The laboratory is accredited under the Clinical Laboratory Improvement Act (CLIA).

   PCB analysis was performed using high resolution gas chromatography/electron capture detector [HRGC/ECD] technique. The serum samples were analyzed for total PCB levels including aroclors 1254 and 1260. Results were as total PCB in units of g/L; no lipid-adjustments were done. No congener specific analyses were performed. The detection limit for this assay is reported to be 5 g/L. For PCB analysis, the laboratory used Alltech standards and NIST controls. Each assay "run" included two levels of controls as well as standards. Since a typical assay "run" includes less than 20 samples per run, the typical QC to sample ratio is very high.

7. Letter, From: Robert G. Kaley, II, Director, Environmental Affairs, Solutia, Inc. To: Wm Gerald Hardy, Chief, Hazardous Waste Branch, Land Division, Alabama Department of Environmental Management. Date: October 1, 1999.

8. Letter from Charles Cunningham to Katharine Hastie of EPA/SESD Region 4 on June 9, 1999, identified LabCorp of Burlington, North Carolina as the laboratory that analyzed the blood samples.

9. Kreiss, K. 1985. Studies on populations exposed to polychlorinated biphenyls. Environ Health Perspect 60:193-199.

10. Agency for Toxic Substances and Disease Registry. Toxicological profile for polchlorinated biphenyls. Draft for Public Comment. Atlanta: U.S. Department of Health and Human Services, Public Health Service. December1999.

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15. Alabama Department of Public Health. Cobbtown/Sweet Valley Community PCB Exposure Investigation for the Monsanto Company Site, Anniston, Calhoun County, Alabama, 1996.

16. M. Van den Berg, L. Birnbaum, A. Bosveld, et al.; Toxic Equivalency Factors (TEFs) for PCBs, PCDDs, PCDFs for humans and wildlife; Environmental Health Perspectives 106 (12) 775-792 (1998).

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18. Slagle, T. Air and Water Enforcement Section, Science and Ecosystem Support Division, EPA Region 4. 1999. Memorandum to Wes Hardegree, Project Manager, Monsanto/Solutia, Anniston, Alabama Project, EPA Region 4. Laboratory results of PCB air study, Anniston Alabama, June 28 to July 1, 1999.

19. EPA. Environmental Investigation Standard Operation Procedures and Quality assurance manual (EISOPQAM). Science and Ecosystem Support Division, Region 4, EPA. May 1996.

20. EPA. Compendium of methods for the determination of toxic compounds in ambient air. Method TO-4. gas chromatography with electron capture detector.

21. Letter, From: Robert G. Kaley, II, Director, Environmental Affairs, Solutia, Inc. To: Wm Gerald Hardy, Chief, Hazardous Waste Branch, Land Division, Alabama Department of Environmental Management. Date: October 1, 1999.

22. Letter, From: Robert G. Kaley, II, Director, Environmental Affairs, Solutia, Inc. To: Wm Gerald Hardy, Chief, Hazardous Waste Branch, Land Division, Alabama Department of Environmental Management. Date: October 1, 1999.

23. Alabama Department of Public Health. Health consultation for the Monsanto Company Site, Anniston, Calhoun County, Alabama, 1996.

24. Alabama Department of Public Health. Cobbtown/Sweet Valley Community PCB Exposure Investigation for the Monsanto Company Site, Anniston, Calhoun County, Alabama, 1996.

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[a] Results for four persons were listed as <3.0; however, text on the first page of the list states that detection limits are 5.0 μg/L. For the purpose of deriving descriptive statistics for this consultation, we will assume a detection limit of 5.0 μg/L unless the list reported "<3.0" for an individual. In addition, results for five persons either were not stated or were indecipherable.

[b] Blood analysis results were reported as micrograms of Aroclor 1254 or 1260 per liter of blood serum.

[c] The 95th percentile is the value (in this case the blood PCB value) below which 95 percent of all other values fall. The term "typical" is used in the sense that those above "typical" are likely to have been exposed to PCBs in a way that is not "typical" for the U.S. population in general. PCBs are man-made, so there is no "naturally occurring" level in blood.

[d] The 2-year-old child with 17.2 μg/L PCBs had lived near the Solutia facility since birth. PCBs were not detected in the blood of the child's mother.

[e] The term geophagia refers to eating clay as a cultural or folk-medicine practice.

[f] The term "sources" in this context refers to places where people came into contact with the PCBs that are now found in their blood. We are not referring to the original maker of the PCBs, nor are we specifically referring to release points from the Solutia facility.

[g] The average of the EPA and Solutia observations over a 3 day period, as shown in Table 8.

[h] Several samples are available for each of about 10 of the 600 residences sampled. An appropriate averaging area for exposure point concentration over long term residential soil-ingestion exposure pathway is the "yard" of a house including significant play or gardening areas near a house. However, ATSDR has not received descriptions of the sampling locations near particular houses for this site. Therefore, ATSDR can not determine which statistical summary of available samples for a house would be more representative of the long term exposure point concentration for houses with several samples. For this reason, the maxima for a residence is used as a conservatively protective measure of averaged exposure point concentration for the residential soil-ingestion exposure pathway.

[i] An exposure point concentration is the concentration of the contaminant in the soil that an individual contacts. To estimate the dose that someone gets of a contaminant, we need an estimate of the average exposure point concentration of all the soil that a person has contacted. A PCB level taken from an area of someone's yard that is not visited very often may either underestimate or overestimate the average exposure point concentration for the individual.

[j] The "internal dose" of a given PCB congener to affected organs is related to the blood level of that congener, even if the environmental source of the PCBs has long since disappeared.

ATTACHMENT 24

ATSDR-Science Corner

Analysis Paper: Impact of Lead-Contaminated Soil on Public Health

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Agency for Toxic Substances and Disease Registry
Atlanta, Georgia 30333

Charles Xintaras, Sc.D., Office of the Assistant Administrator, ATSDR

(May 1992)

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Acknowledgement

This document was downloaded from the CDC Prevention Guidelines on the WWWonder database and reformatted. The author of the report thanks the CDC staff responsible for the HTML coding of the original paper.

Special recognition is due the various ATSDR staff personnel who reviewed and critiqued drafts of this document, and who suggested changes to the text, many of which strengthened and clarified the final version. Among those individuals contributing to this paper, of particular note is Dr. Kenneth Orloff, Assistant Director for Science, Division of Health Assessment and Consultation, whose initial draft background paper on lead in soil formed the point of departure for the present document. Special thanks are due to the members of the ATSDR Science Forum for their many constructive criticisms of successive drafts and to the staff of the ATSDR Visual Information Center for their contribution on graphic design and typesetting. Ms. Jeanne Bucsela served as editor.

Foreword

Lead in the environment and its effects on the health of people is a matter of great concern to the Agency for Toxic Substances and Disease Registry (ATSDR). The Agency was established by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA, also known as Superfund) to assess the public health impact of hazardous wastes in the general environment, to identify human populations at risk, and to effect actions to prevent adverse health effects from human contact with hazardous substances. The Agency's emphasis is on hazardous substances released from waste sites and substances released under emergency conditions (e.g., chemical spills). Lead left in the environment as hazardous waste is a matter of great public health concern to ATSDR.

ATSDR's concern about lead's toxicity derives from several factors. In a report to Congress, The Nature and Extent of Lead Poisoning in Children in the United States, published by ATSDR in July 1988, exposure to lead was identified as a serious public health problem, particularly for children. The report also identified six major environmental sources of lead, including leaded paint, gasoline, stationary sources, dust/soil, food, and water. For leaded paint, the number of potentially exposed children under 7 years of age in all housing with some lead paint at potentially toxic levels is about 12 million. An estimated 5.6 million children under 7 years old are potentially exposed to lead from gasoline at some level. The estimated number of children potentially exposed to U.S. stationary sources (e.g. smelters) is 230,000 children. The range of children potentially exposed to lead in dust and soil is estimated at 5.9 million to 11.7 million children. Some actual exposure to lead occurs for an estimated 3.8 million children whose drinking water lead level has been estimated at greater than 20 mcg/dl.

CERCLA requires ATSDR and the Environmental Protection Agency (EPA) to jointly rank, in order of priority, hazardous substances found at sites on EPA's National Priorities List (NPL). The current list of prioritized hazardous substances numbers 275. The three criteria for ranking were frequency of occurrence at NPL sites, toxicity, and potential for human exposure. Lead is ranked as the number one priority hazardous substance. In view of this, exposure to lead in populations close to hazardous waste sites continues to be a public health issue of concern. ATSDR, in reaction to this concern, recently established a Lead Initiative to systematically review Superfund sites for which the Agency's Public Health Assessments indicate the presence of site-related lead contamination. The goal of this ATSDR initiative is to prevent lead toxicity in persons, especially young children, exposed to lead released from Superfund sites and facilities. For all sites on the NPL, lead occurred at 853 (66%) of the 1300 sites. Thirteen sites have been selected for in-depth follow-up in fiscal year 1992 by ATSDR scientists.

This report provides background information on the complex and interactive factors that environmental health scientists need to consider when evaluating the impact of lead-contaminated soil on public health. A definitive analysis of the impact on public health of lead-contaminated soil is limited often by a lack of information on human exposure factors and soil conditions. Each waste site, therefore, poses a unique challenge to the health assessor and each site should be assessed in terms of its own characteristics.

The development of action levels for lead in soil lies outside the scope of the present report. However, the health assessor will find the information in this report useful in characterizing the significance of exposure pathways and the importance of the physical and chemical properties of the lead compounds that may impact on persons' uptake of lead.

The correlation between lead-contaminated soil and blood lead (PbB) level continues to challenge investigators. Correlations cited in the literature are influenced in specific studies by many factors, including access to soil, behavior patterns (especially of children), presence of ground cover, seasonal variation of exposure conditions, particle size and composition of the lead compounds found at various sites and the exposure pathway. These complex factors explain in some instances discrepant findings that are reported in the literature.

The reader is cautioned that much research is ongoing to clarify relationships between lead in soil and the amount absorbed by humans. Therefore, the associations and mathematical relationships between soil lead concentrations and blood-lead levels cited in this paper should be understood as being what has been published in the scientific literature, but subject to change as newer information becomes available.

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Assistant Administrator

Introduction

The Agency for Toxic Substances and Disease Registry (ATSDR) is mandated by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA or Superfund), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), to perform public health assessments for all sites on the National Priorities List (NPL). Data from health assessments for the first 951 sites show that metals and volatile organic compounds were the contaminants most often detected, and these commonly migrated from disposal areas to groundwater. Metallic substances occurred at 564 (59%) of the 951 sites, with lead, chromium, arsenic, and cadmium being cited most frequently (Susten, 1990).

The purpose of this analysis paper is to examine the relationship between exposure to lead-contaminated soil and the resulting impact on public health. The analysis will provide background information to ATSDR staff and other environmental health scientists responsible for preparing ATSDR documents, such as health assessments, health consultations, and emergency responses.

Emphasis in the analysis is given to the public health aspects of soil lead contamination at field sites. The analysis includes a review of the following areas: populations at high risk, sources of lead exposure, extent of lead poisoning in children, soil characterization, environmental fate of lead, bioavailability of lead, health effects of lead poisoning, correlations of soil lead and blood lead (PbB) in children, soil lead standards and recommendations, public health impact of exposure to lead-contaminated soil, general principles and limitations in field evaluations, and community prevention activities.

The Centers for Disease Control (CDC) Lead Statement for Preventing Lead Poisoning in Young Children is highlighted and provides guidelines on blood lead levels and childhood lead poisoning prevention (CDC, 1991). Examples in the use of the EPA Uptake/Biokinetic Model (Version 0.5) for estimating PbB levels from multiple exposure pathways are included.

Data gaps, such as usage patterns and soil condition, that limit a definitive analysis on the impact of soil on public health are discussed to the extent that information is available. Therefore, the development of action levels for lead in soil lies outside the scope of this document. Interactive and complex factors associated with multiple exposure pathways for lead require a site-specific approach in order to develop meaningful action levels for lead in soil. Identification and discussion of soil remediation protocols are also not within the scope of this analysis.

Populations at risk

Preschool-age children and fetuses are usually the most vulnerable segments of the population for exposures to lead (ATSDR, 1988). This increased vulnerability results from a combination of factors including: 1) the developing nervous system of the fetus or neonate has increased susceptibility to the neurotoxic effects of lead; 2) young children are more likely to play in dirt and to place their hands and other objects in their mouths, thereby increasing the opportunity for soil ingestion (pica--the eating of dirt and other non-food items--is more likely to occur in children); 3) the efficiency of lead absorption from the gastrointestinal tract is greater in children than in adults; and 4) nutritional deficiencies of iron or calcium, which are prevalent in children, may facilitate lead absorption and exacerbate the toxic effects of lead.

Among children, those in the 2-3 year-old age bracket may be most at risk for exposure to lead-contaminated soil. Mahaffey et al. (1982) reported that children in this age group had the highest PbB concentrations. This is also the age group in which pica tendencies are most prevalent (ATSDR, 1988).

Sources of lead exposure

Several major sources of lead exposure have been identified (ATSDR, 1988). Leaded paint continues to cause most of the severe lead poisoning in children in the United States. It has the highest concentration of lead per unit of weight and is the most widespread of the various sources, being found in approximately 21 million pre-1940 homes. Dust and soil lead--derived from flaking, weathering, and chalking paint--plus airborne lead fallout and waste disposal over the years, are the major proximate sources of potential childhood lead exposure. Lead in drinking water is intermediate but highly significant as an exposure source for both children and the fetuses of pregnant women. Food lead also contributes to exposure of children and fetuses.

Individuals may be exposed to lead through several sources. When evaluating a site, a health assessor should be aware of multiple sources of lead exposure and the additive nature of the risks. An important source of lead exposure in older homes is contact with interior or exterior surfaces that have been painted with lead-based paints. Some individuals may be exposed to lead from occupational or hobby sources or from other less-common sources, such as the use of lead-glazed pottery, stained glassworking, and target practice in poorly ventilated indoor firing ranges.

Extent of lead poisoning in children

The 1988 Agency for Toxic Substances and Disease Registry (ATSDR) report on the extent of lead poisoning in the United States estimated that in the 1984 standard metropolitan statistical areas 2.4 million white and black children aged 6 months through 5 years had PbB levels above 15 mcg/dl and 200,000 children above 25 mcg/dl. This would correspond to approximately 3 million and 250,000, respectively, for all children 6 months through 5 years in the total U.S. population.

The actual number of children exposed to lead in dust and soil at concentrations adequate to elevate PbB levels cannot be estimated with the data now available. However, the number of children potentially exposed to lead in dust and soil can be stated as a range of potential exposures to the primary sources of lead in dust and soil, namely, paint lead and atmospheric lead fallout. This range is estimated at 5.9 to 11.7 million children (ATSDR, 1988).

Soil characterization

Soil is contaminated by lead from various sources (American Academy of Pediatrics. 1987). Lead particles are deposited in the soil from flaking lead paint, from incinerators (and similar sources), and from motor vehicles that use leaded gasoline. Waste disposal is also a factor. Urban environments in general have received higher depositions of lead from vehicular emissions than have rural areas.

In many lead-mining districts, the predominant form of lead is galena or lead sulfide. However, the mineral deposits in Leadville, Colorado, are unusual (Colorado Department of Health, 1990). In Leadville, the mineral forms of lead are predominantly cerusite (lead carbonate), anglesite (lead sulfate), and massicot (lead oxide).

Wide variations in soil lead levels have been reported, ranging from less than 100 ppm to well over 11,000 ppm (National Research Council, 1980). Natural levels of lead in surface soils are usually below 50 ppm (Chaney et al. 1984; Reagan and Silbergeld, 1989). Soils adjacent to houses with exterior lead-based paints may have lead levels of >10,000 mcg/g (EPA 1986).

Particle size and lead content of house dust

Que Hee et al. (1985) measured the lead content in samples of house dust categorized into fractions by particle size collected in Cincinnati, Ohio (Table 1). The Que Hee et al. study shows that lead concentration is generally independent of particle size and that the bulk of the dust particles are concentrated in the smaller size ranges. Note that 77% of the lead was present in particles smaller than 149 mcm. This distribution of lead in small particles would maximize intestinal absorption.

Table1. Normal house dust by particle size and lead content (Que Hee et al. 1985, adapted by Steele et al.1990)

Size range (µm)	Weight % of fractionated dust	Lead content µgPb/g of dust fraction	% Lead in unfractionated dust
<44	18	1440	21
44-149	58	1180	56
149-177	4.5	1330	4.9
177-246	2.7	1040	2.3
246-392	6.1	1110	5.6
392-833	11	1090	9.6
Unfractionated Dust	100	1214 ± 13[a]	100

[a] = Standard deviation

Environmental fate of lead

Air: Lead particles are emitted from automobiles to the atmosphere as lead halides (e.g., PbBrCl) and as the double salts with ammonium halides (e.g., 2PbBrCl NH4Cl); lead particles are emitted from mines and smelters primarily in the form of PbSO4, PbO.PbSO4, and PbS (EPA, 1986). In the atmosphere, lead exists primarily in the form of PbSO4 and PbCO3 (EPA, 1986). How the chemical composition of lead changes in dispersion is not clear.

Water: Lead has a tendency to form compounds of low solubility with the major anions found in natural water (Table 2). In the natural environment, the divalent form (Pb2+) is the stable ionic species of lead. Hydroxide, carbonate, sulfide, and, more rarely, sulfate may act as solubility controls in precipitating lead from water. A significant fraction of lead carried by river water is expected to be in an undissolved form. This can consist of colloidal particles or larger undissolved particles of lead carbonate, lead oxide, lead hydroxide, or other lead compounds incorporated in other components of surface particulate matter from runoff. The ratio of lead in suspended solids to lead in dissolved form has been found to vary from 4:1 in rural streams to 27:1 in urban streams (EPA. 1986).

Table 2. Solubility of lead and lead compounds (ATSDR, 1992)

Element / Compound	**Solubility**	
	Water	**Organic solvents**
Lead	Insoluble	Insoluble
Lead acetate	221g/100ml at 50°C	Soluble in glycerol, very slight in alc.
Lead chloride	0.99 g/100ml at 20°C	Insoluble in alcohol
Lead chromate	0.2 mg/L	Insoluble in acetic acid
Lead nitrate	37.65-56.5 g/100ml at 0°C	1 g in 2,500 ml absolute alcohol 1 g in 75 ml absolute methanol
Lead oxide	0.001 g/100 cc at 20°C (Litharge) 0.0023 g/100 cc at 23°C (Massicot)	Soluble in alkali chlorides Soluble in alkali (Massicot)
Lead sulfate	42.5 mg/L at 25°C	Insoluble in alcohol

Soil: Paint is a major contributor to soil lead contamination. Remediation of exterior lead-based paint hazards is critical if further contamination is to be avoided (Binder and Matte, 1992). The accumulation of lead in soil is primarily a function of the rate of deposition from the atmosphere. The fate of lead in soil is affected by the specific or exchange adsorption at mineral interfaces, the precipitation of sparingly soluble solid phases, and the formation of relatively stable organo-metal complexes or chelates with the organic matter in soil (EPA, 1986; NSF, 1977).

Evidence exists that atmospheric lead enters the soil as lead sulfate or is converted rapidly to lead sulfate at the soil surface. Lead sulfate is relatively soluble, and thus could leach through the soil if it were not transformed. In soils with pH of > or = 5 and with at least 5% organic matter, atmospheric lead is retained in the upper 2-5 cm of undisturbed soil (EPA, 1986).

Lead may mobilize from soil when lead-bearing soil particles run off to surface waters during heavy rains. Lead may also mobilize from soil to atmosphere by downwind transport of smaller lead- containing soil particles entrained in the prevailing wind (NSF, 1977). This latter process may be important in contributing to the atmospheric burden of lead around some lead-smelting and Superfund sites that contain elevated levels of lead in soil.

The downward movement of lead from soil by leaching is very slow under most natural conditions (NSF, 1977). The conditions that induce leaching are the presence of lead in soil at concentrations that either approach or exceed the sorption capacity of the soil, the presence in the soil of materials that are capable of forming soluble chelates with lead, and a decrease in the pH of the leaching solution (e.g., acid rain) (NSF, 1977). Partial favorable conditions for leaching may be present in some soils near lead- smelting and NPL sites that contain elevated levels of lead in soil.

Bioavailabilty of lead

Barltrop and Meek (1975) examined the absorption in rats of 12 different lead compounds following oral exposure, including solids and oily, viscous liquids. compared with lead acetate absorption. The kidney contents of lead were calculated as percentages of the relevant lead acetate values (Table 3). The absorption of metallic lead (particle size 180-250 mcm) was lower than the absorption of lead salts (particle size < 50 mcm). Lead carbonate had the highest absorption, which, the authors suggest, may reflect the greater solubility of this compound in gastric juice.

Table 3. Absorption by rat kidney of lead additives compared with lead acetate (Barltrop and Meek, 1975)

Lead compound	Percent absorption compared with lead acetate
Control (no lead)	4
Metallic lead (particle size 180-250 μm)	14
Lead chromate	44
Lead octoate	62
Lead naphthenate	64
Lead sulfide	67
Lead tallate	121
Lead carbonate (basic)	164

A key factor in the solubility of lead is the pH of the fluid. Healy et al. (1982) measured the solubility of lead sulfide (particle size approximately 90 mcm) in several fluids, including water, saliva, and gastric juice. The lead was relatively insoluble in water and saliva, but was 800 times more soluble in simulated gastric juice. Day et al. (1979) measured the solubility (extractability) in hydrochloric acid of lead from street dust collected in two industrial cities. The authors assumed that the lead compounds were primarily oxides and halides emitted from automobiles. Under environmental conditions, these compounds can be converted to carbonates and sulfates. Less than 10% of the lead was extracted at pH 4 and higher; more than 80% was extracted at pH 1, the nominal pH of gastric juice. The significance of these findings is not clear because the temperature of extraction did not correspond to physiological conditions (37 C) and hydrochloric acid is a simplistic simulation of gastric juice. Other studies have supported the higher degree of solubilization at a pH about 1 of lead from street dust samples (Duggan and Williams, 1977; Harrison, 1979).

Metabolic interactions of lead with nutrients

Mahaffey and co-workers (1976) reported that children with elevated PbB had lower dietary intakes of calcium and phosphorus than did a reference population. Heard and Chamberlain (1982) reported similar findings. Several studies have shown a strong inverse correlation between iron status and PbB (Chisolm,1981; Yip et al., 1981; Watson et al., 19[illegible]. Zinc deficiency can also enhance lead absorption (Markowitz and Rosen, 1981).

The main conclusion to be drawn from studies of lead-nutrient interactions is that defects in nutrition will enhance lead absorption and retention and thus the toxicity risk. This problem is amplified when nutrient deficiencies are commonplace and lead exposure is highest, that is, in 2-to 4- year-old, underdeveloped children (ATSDR, 1988).

Improving the nutritional status of children who have a high risk of exposure and toxicity greatly increases the effectiveness of environmental lead abatement. However, nutritional supplement (calcium) only increases the lead level required for toxicity rather that eliminating lead uptake and its effects (Mahaffey, 1982).

The levels of phosphorus, which indicate Vitamin D levels, suggest that most poor children's intake of this vitamin is adequate (ATSDR, 1988). Vitamin D enhances lead uptake in the gut, but its intake is essential to health and cannot be reduced (ATSDR, 1988).

Health effects of lead exposure

Studies on the effects of lead in children have demonstrated a relationship between exposure to lead and a variety of adverse health effects. These effects include impaired mental and physical development, decreased heme biosynthesis, elevated hearing threshold, and decreased serum levels of vitamin D (Figure 1). The neurotoxicity of lead is of particular concern, because evidence from prospective longitudinal studies has shown that neurobehavioral effects, such as impaired academic performance and deficits in motor skills, may persist even after PbB levels have returned to normal (Needleman, 1990). Although no threshold level for these effects has been established, the available evidence suggests that lead toxicity may occur at PbB levels of 10-15 mcg/dl or possibly less (ATSDR 1988).

Additional information on lead toxicity is contained in The Nature and Extent of Lead Poisoning in Children in the United States: A Report to Congress (ATSDR, 1988) and the ATSDR Toxicological Profile for Lead (ATSDR, 1992).

Correlations of soil lead and blood lead in children

Every community and every study reflects a different range of soil lead concentrations and blood lead levels. Several comprehensive reviews have examined the quantitative relationship between exposure to lead-contaminated soil and PbB levels in children. This result is commonly expressed in the literature as a dose-response relationship and reflects a change in PbB levels with the change in soil lead concentrations (assuming a linear relationship between the two) scaled to a standard unit of soil lead concentration (either 1,000 mcg/g or 100 mcg/g) (Reagan and Silbergeld, 1989).

Duggan (1980), Duggan and Inskip (1985)

Duggan compiled data from published studies that reported a quantitative correlation between PbB concentrations and lead concentrations in soil or dust (Duggan, 1980; Duggan and Inskip, 1985). Duggan included data from sites with diverse sources of lead contamination (e.g., lead mining, smelting, lead paint, automobile exhaust emissions). The data indicated that the increase in PbB levels associated with exposures to lead in soil varied between 0.6 and 65 mcg lead/dl blood per 1000 ppm lead in soil. As an average value, Duggan suggested that exposure to soil containing 1000 ppm of lead could increase the PbB level by 5 mcg/dl. No value for an acceptable concentration of lead in soil was offered because such a value would depend on what constitutes an acceptable increase in the PbB concentration.

ATSDR (1988)

In the ATSDR document: The Nature and Extent of Lead Poisoning in Children in the United States: A Report to Congress, it was noted that several investigations have shown a highly significant correlation between PbB levels and lead concentrations in dust and soil. Several references were cited that describe quantitative relationships between PbB levels and soil or dust lead levels. The report concluded, "In general, lead in dust and soil at levels of 500 to 1,000 ppm begins to affect children's PbB levels."

Madhaven et al (1989)

Madhaven et al. (1989) used the data compiled by Duggan (1980) to derive a "safe" or permissible level of lead in soil. The authors based their analysis on 8 of Duggan's 21 slope estimates for PbB vs. soil lead. Madhaven et al. selected those studies for which soil was believed to be the only source of lead and for which the susceptible population were children under 12 years of age. The geometric mean of the 8 studies was 3.41 mcg lead/dl blood per 1000 ppm lead in soil, and the 95 percentile upper confidence interval was 8.59 mcg/dl per 1000 ppm. The authors proposed permissible levels of lead in soil ranging from 250 to 1000 ppm depending on site conditions. The 250 ppm value applies to a worst-case scenario in which children below 5 years of age repeatedly used an area without grass cover and mouthed objects frequently. In this situation, a soil lead concentration of 250 ppm would add, at most, an estimated 2 mcg/dl to the PbB level of children.

Reagan and Silbergeld (1989)

Recently Reagan and Silbergeld (1989) summarized the findings of several studies dealing with observed relationships between environmental lead concentrations and body lead burdens in young children (Table 4).

Table 4 . Dose response relationships between soil Pb concentrations and blood Pb levels (Reagan and Silbergeld, 1989)

Study[2]	Dose response relationships[1]	
	Change in blood Pb per 1000 μg/g soil lead	Change in blood Pb per 100μg/g soil lead
Urban communities		
Angle and McIntire (1982)	15.5*	1.6
Brunekreef et al. (1983)	11.3*	11.1
Stark et al. (1982)	10.2*	1.0
Davies et al. (1987)	10.0	1.0
Haan (personal communication)	10.0	1.0
Madhaven et al. (1989)	9.0	.9
Reeves et al. (1982)	8.1*	0.8
Rabinowitz et al. (1985)	8.0	.8
Bornschein (1986)	6.2	0.6
Shellshear et al. (1975)	3.9*	0.4
Lead industries communities		

Brunekreef et al. (1981)	12.6*	1.3
Landrigan et al. (1975)	11.7*	1.2
Neri et al. (1978)	11.2*	1.1
Yankel et al. (1977)	7.3*	0.7
Roberts et al. (1974)	5.3*	0.5
Galke et al. (1975)	4.9*	0.5
Mining communities		
Gallacher et al. (1974)	4.1	0.4
Barltrop et al. (1974)	0.6*	0.1
Review articles		
Brunekreef et al. (1986)	5-10	0.5-1.0
AAP (1987)	5-10	1.0-2.0[3]
Duggan (1980, 1983)	5	0.5
EPA (1986a)	2	0.2

[1] This table reflects unadjusted values (calculated by Brunekreef (1986) and noted by an * and values in other studies calculated by the authors of the study.
[2] See Reagan and Silbergeld (1989) for full citations for these references.
[3] Covering the range of 500-1,000 µg/g only.

Reagan and Silbergeld (1989) analyzed the review articles by Brunekreef (1986), American Academy of Pediatrics (AAP) (1987), Duggan (1980), Duggin and Inskip (1985), and EPA (1986) and reported several limitations in the articles. In the Brunekreef review, most studies reviewed "do not permit straightforward calculation of (a dose-response relationship) which are properly adjusted for relevant confounders". Nevertheless, Brunekreef concluded that the dose-response relationship was in the 5.0-10.0 (mcg/dl per 1,000 mcg/g) range for lead in soil, housedust, streetdust, and playground dust. After reviewing several studies Duggan also concluded that the dose-response relationship of PbB to soil lead concentration is 5 mcg/dl per 1000 mcg/g which is very close to his theoretical calculation of 7 mcg/dl per 1,000 mcg/g. Brunekreef criticized Duggan's review because he relied heavily on studies in which one or more pathways were excluded and used adjusted instead of unadjusted values in some studies.

The review by the AAP notes that for each increase of 100 mcg/g in the lead content of surface soil above a level of 500 mcg/g a mean increase of 1 to 2 mcg/dl occurs in children's whole PbB (AAP 1987). No explanation was given in the AAP study for starting the slope at a soil lead value of 500 mcg/g. Reagan and Silbergeld (1989) also criticized the EPA review for selecting only two studies (Stark et al., 1982; Angle and McIntire, 1982), which

EPA believed provided good data for the slope estimates (2.2 mcg/dland 6.8 mcg/dl) and then selecting the lowest one as a "median estimate" without explaining why this selection technique is appropriate. Brunekreef also criticized the EPA conclusion because EPA mixed adjusted and unadjusted values and because use of an adjusted value in the Stark study was inappropriate.

The dose-response relationship differs between urban and industrial communities and lead-mining communities, with lead-mining communities having a shallower slope (Reagan and Silbergeld, 1989). This difference is probably due to a difference in the bioavailabilty of lead. Particle size and metal species are also thought to be major factors (Colorado Department of Health, 1990). However, differences in modulating factors (such as nutrition) may also have been important in these studies.

With regard to particle size, leaded gasoline, which is the predominant source of lead in urban communities, and industrial point sources emit small particles, whereas mines and tailing piles release relatively large particles, primarily as fugitive dusts (EPA, 1986). Smaller particles may be inhaled and ingested, increasing total exposure. Smaller particles are easily transferred to the hands and tend to remain on the hands longer, thereby increasing the potential for ingestion.

With respect to metal species, Steele et al. (1990) noted that the impact of lead in soil derived from mine waste (usually in the form of PbS) on blood lead is less than that for lead in soil derived from smelter, vehicle, or point sources. However, in an animal study, tailing material from Midvale, Utah, was found to be more available to young pigs than was reagent grade PbS when presented as a single large dose by intubation (LaVelle et al. 1991). This study does not lend support to the Steele finding.

Environmental Protection Agency (1990)

The U.S. Environmental Protection Agency (EPA) recently developed an Integrated Uptake/Biokinetic (IU/BK) model that examines the relationship between environmental exposure to lead and PbB levels. Examples in the use of this EPA model (Version 0.5) are shown in (Figure 2), (Figure 3), (Figure 4). This model is not used to set clean-up standards per se. Rather, it allows the health assessor to make site-specific calculations for children 6 yrs of age and under for PbB levels resulting from exposures to lead in soil, dust, air, water, and the diet. Several assumptions and default exposure variables are built into the model for use when these parameters are not known. The model is still being validated by the EPA.

Soil lead standards and recommendations

Many governments have promulgated soil lead standards or issued guidelines for lead in soil (Table 5).

Table 5. Soil lead standards for residential land use.
(Adapted from Reagan and Silbergeld, 1989)

Location	Residential
U.S. (2,3,4)	500 (a)
Minnesota (4,5)	500 (b)
OME, Canada (2,6)	375 (c) 500 (d)
Netherlands (9)	50 (f) 150 (g) 600 (h)
England (8,10)	500 (i)
London	500 (j)

(a) 600 μg/g repealed. changed to leachate standard.
interim 500 μg/g guideline
(b) proposed emergency rule. interim 1000 μg/g standard
(c) sandy soil
(d) non-sandy soil
(f) reference value
(g) further investigation
(h) clean up value
(i) redevelopment of industrial lands
(j) dust standard

Sources cited (see Reagan and Silbergeld, 1989. for full citations): (2) Rinne et al. (1986); (3) Office of Solid Waste and Emergency Response (OSWER) (1989): (4) personal communication; (5) Minnesota Hazardous Waste Regulations; (6) Ontario Ministry of the Environment (OME) (1986); (8) Davies and Wixson (1986); (9) Assink and Vanderbrink (1986); (10) Department of the Environment (DOE,UK,1987); (11) Wilson (1983).

Researchers have also calculated "acceptable" levels of lead in soil or dust (Table 6).

Table 6. Soil lead standard recommendations (Adapted from Reagan and Silbergeld, 1989)

Author(s)	Standard (ppm)	Comments
Shelshear et al. (1975)	<100	Protect pica children
Mielke et al. (1989)	<150	Prevent lead toxicity (10 μg/dl
Chaney et al. (1986, 1989)	<150	Protect pica children
Duggan and Williams (1977)	300	Keep ADI <50 μg/Pb/day (street dust standard)
Boucier et al. (1985)	300	Keep blood lead below 25 μg/dl
Simms and Becket (1987)	500	Keep blood lead below 25 μg/dl
Madhaven et al. (1989)	600 250	Permit an increase in blood lead of 5 μg/dl above existing levels Protect children where there is no grass cover
Steenhout (1987)	900	Based upon an ADI of 200 μg Pb/day
Laxen et al. (1987)	1000	Allows dust to contribute 2.5-3.0 μg/dl (housedust)

Reagan and Silbergeld (1989) also noted an order of magnitude difference in the recommendations offered in the literature. The standards reflect four basic arguments to justify or advocate a specific lead limitation.

1. To protect pica children, a lead soil standard should be below 100 mcg/g (Shellshear et al. (1975)) or 150 mcg/g, (Chaney et al. (1986,1989)).

2. To keep PbB levels below 25 mcg/dl a standard of 300 (Bourcier et al. (1985)) and 500 mcg/g (Simms and Becket 1987)) is needed. Mielke et al. (1989) also argue that to keep PbB lvels below 10 mcg/dlthe standard should be less than 150 mcg/g.

3. Based on an Acceptable Daily Intake (ADI) of 50 and 200 mcgPb/day, respectively, soil levels of 300 (Duggan and Williams (1977)) and 900 mcg/g (Steenhout (1987)) are recommended.

4. Laxen et al. (1987) and Madhaven et al. (1989) argue for a standard that would allow PbB levels to increase by 3-5 mcg/dl over and above existing PbB levels. Madhaven et al. also argue that children exposed to lead at 250 mcg/g in bare soils could have increased PbB levels of 2 mcg/dl.

Reagan and Silbergeld (1989) have normalized the recommendations noted in the previous table (Table 7). They assumed a linear relationship and that all the lead comes from soil and dust.

Table 7. Normalized soil lead standard recommendations (Reagan and Silbergeld, 1989)

Author(s)	Recommended standard (ppm)	Normalized (ppm)
Shelshear et al. (1975)	<100	<100
Mielke et al. (1989)	<150	<150
Chaney et al. (1986, 1989)	<150	<150
Duggan and Williams (1977)	300	150
Boucier et al. (1985)	300	120
Simms and Becket (1987)	500	200
Madhaven et al. (1989)	600 250	120 50
Steenhout (1987)	900	112
Laxen et al. (1987)	1000	333

In recommending a soil lead standard, Reagan and Silbergeld argue that

1. No one should have a PbB level greater than 10 mcg/dl;
2. pica children should be protected;
3. soil and dust lead exposure should not be allowed to increase PbB levels; and
4. (indirectly) the total allowable daily intake (ADI) of lead should not exceed 25 mcg.

Reagan and Silbergeld (1989) caution that the "normalized" values reflect the assumption that all allowable lead came from soil or dust. A further downward revision should be made to allow for other sources that contribute to total body lead burden for all populations. The Laxen et al. value, Reagan and Silbergeld point out, was not adjusted for age (he examined 10-12 year-old children, instead of the high-risk, 2-4 year-old children).

Finally, Reagan and Silbergeld argue "that the literature as a whole supports a low soil lead standard of 100 mcg/g or so." In proposing this standard, Reagan and Silbergeld (1989) also proposed that the standard:

1. Be limited to residential areas;
2. Be a bare soil standard, if and only if, the community can guarantee adequate ground cover, essentially forever;

3. Be based on a soil survey;
4. Be applicable to property based on sample type;
5. Be enforceable;
6. Include a soil replacement standard;
7. Take into account soil type (i.e., the standard should be lower for sandy soil or soils having a low content of organic matter).

Public health impact of exposure to lead-contaminated soil

A strong positive correlation is found between exposure to lead-contaminated soils and PbB levels. Generally, PbB levels rise 3-7 mcg/dl for every 1000-ppm increase in soil or dust lead concentrations (CDC, 1991). This range reflects different sources of lead, different exposure conditions, and different exposed populations.

At all sites, ATSDR recommends that health assessors evaluate the need for any follow-up health activities. This effort should be coordinated with other health agencies, as appropriate, to ensure that all aspects of a site that impact the health of the community are evaluated. Environmental health scientists will find the recent statement by CDC, Preventing Lead Poisoning in Young Children, a very useful resource (CDC, 1991).

Ideally, to determine the public health impact of environmental lead contamination at a site, a biomarker of lead exposure in the exposed population should be available. The most commonly used biomarkers of lead exposure are the PbB concentration and the blood erythrocyte protoporphyrin (EP) concentration. Although blood EP levels are commonly used in lead screening programs, the EP test has poor sensitivity and specificity below a PbB level of 25 mcg/dl (CDC, 1991). Therefore, PbB concentration is a more sensitive indicator of low-level lead exposures. CDC recommends PbB concentration as the screening test of choice (CDC, 1991).

To assess the potential for lead toxicity at a site, the health assessor should first examine the available PbB data. CDC has reported guidelines for interpreting PbB test results in children and recommendations for follow-up activities (Table 8).

Table 8. Interpretation of blood lead test results and follow-up activities: Class of child based on blood lead concentrations

Class	Blood lead concentration (µg/dl	Comment
I	= or < 9	A child in Class I is not considered to be lead- poisoned
IIA	10-14	Many children (or a large proportion of children) with blood lead levels in this range should trigger community-wide childhood lead poisoning prevention activities. Children in this range may need to be screened more frequently.
IIB	15-19	A child in Class IIB should receive nutritional and educational interventions and more frequent screening. If the blood lead levels persist in this range, environmental investigation and intervention should be done.
		A child in Class III should receive environmental evaluation and

III	20-44	remediation and a medical evaluation. Such a child may need pharmacologic treatment of lead poisoning.
IV	45-69	A child in Class IV will need both medical and environmental interventions, including chelation therapy.
V	= or > 70	A child in Class V lead poisoning is a **medical emergency**. Medical and environmental management must begin **immediately**

(Adapted from CDC, Preventing Lead Poisoning in Young Children. A Statement by the Centers for Disease Control, October. 1991. U.S. Department of Health aand Human Services/Public Health Service) If PbB levels are elevated, exposure to lead-contaminated soil may not be the only source for the increased blood level. Other lead sources - -such as lead from food, water, or air--could be partially or primarily responsible for the elevated PbB. These other potential exposure pathways should be thoroughly evaluated.

Even if PbB levels are not elevated, the site should not be dismissed as posing no potential public health hazard. Potential seasonal variation of exposure conditions; the half-life of lead in the blood stream; and limitations of any screening methods used, especially study design (power and representativeness of blood and soil samples), should be evaluated. If conditions at a site change dramatically, retesting exposed individuals may be necessary to determine the impact of altered conditions on PbB levels. Commonplace changes may also be significant in altering PbB levels.

The results of occupational studies indicate that increased exposures to lead are followed by elevations in PbB levels, which reach a new level in 60-120 days (Tola et al. 1973). Also, PbB levels may be higher in children during the summer months presumably as the result of increased opportunity for exposures through outdoor play.

The biologic fate of inorganic lead in the human body is well known. Inorganic lead is not metabolized but is directly absorbed, distributed, and excreted. Once in the blood, lead is distributed primarily among three compartments--blood, soft tissue (kidney, bone marrow, liver, and brain), and mineralizing tissue (bones and teeth). Mineralizing tissue contains about 95% of the total body burden of lead in adults (ATSDR, 1990).

In blood, 99% of the lead is associated with erythrocytes; the remaining 1% is in the plasma and is available for transport to the tissues. In single-exposure studies with adults, lead has a half- life in blood of approximately 25 days; in soft tissue, about 40 days; and in the non-labile portion of bone, more than 25 years. In bone there is both a labile component, which readily exchanges lead with the blood, and an inert pool. Lead in the inert pool poses a special risk because it is a potential endogenous source of lead. Because of these mobile lead stores, a person's PbB level can take several months or sometimes years to drop significantly, even after complete removal from the source of lead exposure (ATSDR, 1990).

In Leadville, Colorado, the Colorado Department of Health examined the impact of residential soil lead contamination on the PbB levels of children (Colorado Department of Health, 1990). Lead smelting operations in the area ended in 1961, and, at the time of the study in 1987, only one lead and zinc mine was still operating. An increase in soil lead concentration from 100 to 1100 ppm was associated with an estimated increase of 3.9 mcg/dl in the PbB concentration.

The results of several studies have indicated that the increase in PbB concentration as a function of soil lead concentration is not linear. That is, at higher lead concentrations in soil, the rate of increase in PbB levels falls off. Using data from exposure studies conducted at Helena Valley in Montana and Silver Valley in Idaho, Schilling and Bain (1989) derived the following linear regression model for the correlation between PbB levels and soil lead levels:

ln (blood lead level) = 0.879 + 0.241 ln (soil lead level)

Using this equation, an increase in soil lead from 100 ppm to 1100 ppm would increase the predicted PbB level from 7.3 mcg/dl to 13.0 mcg/dl, an increase of 5.7 mcg/dl. A further increase in soil lead to 2100 ppm would increase the estimated PbB level to only 15.2 mcg/dl.

The non-linearity of the dose-response curve for blood lead vs. soil lead is not unique to soil lead exposures. The rate of increase in PbB levels has also been observed to decrease upon exposure to high concentrations of lead in air or drinking water (Hammond. 1982).

Under the Superfund Amendments and Reauthorization Act of 1986. EPA (1991) initiated a "pilot program for the removal, decontamination, or other actions with respect to lead-contaminated soil in one to three metropolitan areas". One study, the Three City Urban Soil-Lead Demonstration Project, was designed to investigate whether the use of low-technology abatement methods to reduce environmental lead concentrations (soil, dust) would result in decreased PbB levels in children. Findings from this study are expected in the summer of 1992. It is possible that the impact of contaminated soil, like that of paint, is highly dependent on condition and usage patterns. This issue has not been adequately evaluated (Binder and Matte, 1992).

General principles and limitations in field evaluations

Screening tests

The erythrocyte protoporphyrin level is not sensitive enough to identify children with elevated PbB levels below about 25 mcg/dl. The screening test of choice is now PbB measurement (CDC 1991).

Dose-response curve

When assessing the public health impact of environmental lead contamination, the lower portion of the dose-response curve for PbB vs. soil lead should be used. This portion of the curve has the steepest slope, and it corresponds to conditions in which the impact on PbB is the greatest.

PbB levels generally rise 3-7 mcg/dl for every 1,000-ppm increase in soil or dust lead concentrations (CDC 1991). Access to soil, behavior patterns, presence of ground cover, seasonal variation of exposure conditions, and other factors may influence this relationship.

Sample size

Caution should be used in drawing conclusions when only one or a few soil samples from a site have been analyzed. Depending on the uniformity of lead distribution at a site, a single soil sample may significantly overestimate or underestimate the average lead concentration at a site.

Surface soil

Because lead is immobilized by the organic component of soil, lead deposited from the air is generally retained in the upper 2-5 centimeters of undisturbed soil (EPA 1986). Urban soils and other soils that are disturbed or turned under may be contaminated down to far greater depths. Opportunity for exposure is much greater to surface soil than to subsurface soils.

Evidence for the non-uniformity of lead distribution in urban soils was demonstrated in a study that examined soil lead concentrations in urban Baltimore gardens (Chaney 1984). Soil lead concentrations varied more than 10-fold within a single garden.

Chemical form of lead

The impact of exposure to lead-contaminated soil on PbB levels is also influenced by the chemical and physical form of the lead. Data from animal feeding studies suggest that the oral bioavailability of lead sulfide and lead chromate is significantly less than the bioavailability of other lead salts (oxide, acetate) (Barltrop and Meek 1975).

Particle size

Increasing the particulate size also reduces the bioavailability of lead in the gastrointestinal tract. In animal feeding studies, decreasing the lead particulate size from 197 microns to 6 microns resulted in a 5-fold enhancement in absorption (Barltrop and Meek 1979). The lead content of soil and dust has also been demonstrated to vary dramatically as a function of particle size (Duggan and Inskip, 1985). Several studies have reported that the lead content of soil, street dust, city dust, and house dust increases as the particle size decreases.

Lead-mining sites

The results of studies at lead-mining sites have indicated that soil lead contamination from mine tailings may be less effective in increasing PbB levels than is lead contamination derived from urban lead pollution (paint, gasoline) or atmospheric lead fallout from lead smelting operations (Steele et al. 1990). However, an animal study by LaVelle et al. (1991) on the bioavailability of lead in mining wastes following oral intubation in young swine does not support these findings.

The reduced bioavailability of lead from mine tailings may be related to its chemical form (lead sulfide) and its larger particulate size. Evaluations of mining sites require analyses of these physical-chemical parameters.

Community prevention activities

Pathways of Exposure

Soil and dust act as pathways to children for lead deposited by primary lead sources such as lead paint, leaded gasoline, and industrial or occupational sources of lead (CDC 1991).

Because lead does not dissipate, biodegrade, or decay, the lead deposited into dust and soil becomes a long-term source of lead exposure for children. For example, although lead emissions from gasoline have largely been eliminated, an estimated 4-5 million metric tons of lead previously used in gasoline remain in dust and soil, and children continue to be exposed to it (ATSDR 1988).

Prevention activities

Community prevention activities should be triggered by PbB levels > or = 10 mcg/dl, as recommended by the Centers for Disease Control (Table 8). (CDC, 1991). For community-level intervention to be successful at least five types of activities are necessary (CDC, 1991).

(1) ***screening and surveillance***
determining populations at risk and the locations of the worst exposures;

(2) ***risk assessment and integrated prevention planning***
analyzing all available data to assess sources of lead, exposure patterns, and high-risk populations; developing prevention plans;

(3) ***outreach and education***
informing health-care providers, parents, property owners, and other key people about lead poisoning prevention;

(4) ***infrastructure development***
finding the resources needed for a successful program of risk reduction;

(5) ***hazard reduction***
reducing the hazards of lead-based paint and lead in dust and soil, particularly in high-risk buildings and neighborhoods.

Soil lead abatement

Soil lead abatement may consist of either establishing an effective barier between children and the soil or the removal and replacement of at least the top few centimeters of soil.

Summary

Exposure Pathways and Populations at Risk

Soil and dust act as pathways to children for lead deposited by primary lead sources such as lead in paint, leaded gasoline, and industrial or occupational sources of lead. Because lead does not dissipate, biodegrade, or decay, the lead deposited into dust and soil becomes a long-term source of lead exposure for children.

Preschool-age children and fetuses are usually the most vulnerable segments of the population for exposure to lead. Among children, those in the 2-3 year-old age bracket may be most at risk for exposure to lead-contaminated soil. The number of children potentially exposed to lead in dust and soil is estimated at 5.9 to 11.7 million children.

Uptake and Bioavailability of Lead

A strong positive correlation is found between exposure to lead- contaminated soils and PbB levels. Generally, the PbB levels rise 3-7 mcg/dl for every 1000 ppm increase in soil or dust concentrations. Access to soil, behavior patterns, presence of ground cover, seasonal variation of exposure conditions, and other factors may influence this relationship.

Bioavailability of lead in the gastrointestinal tract is influenced and may be reduced as the particulate size of lead is increased. The reduced bioavailability of lead from mine tailings may be related to its chemical form and its larger particulate size. Evaluations of mining sites require analyses of these physical- chemical parameters.

Biomarkers

The most commonly used biomarkers of lead exposure are the PbB concentration and the blood erythrocyte protoporphyrin (EP) concentration. The EP test has poor sensitivity and specificity below a PbB level of 25 mcg/dl. The CDC recommends PbB concentration as the screening test of choice.

Site-Specific Exposure Assessment

Interactive and complex factors associated with multiple exposure pathways for lead require a site-specific approach in order to develop meaningful action levels for lead in soil. When evaluating a site, a health assessor should be aware of multiple sources of lead exposure and the additive nature of the risks. Dust and soil lead -- derived from flaking, weathering, and chalking paint -- plus airborne lead fallout and waste disposal over the years, are the major proximate sources of potential childhood lead exposure.

Wide variations in soil lead levels have been reported, ranging from less than 100 ppm to well over 11,000 ppm. Soils adjacent to houses with exterior lead-based paints may have lead levels of >10,000 mcg/g. The downward movement of lead from soil by leaching is very slow under most natural conditions.

At a site, the health assessor should examine the available PbB data. Recently, the CDC has provided guidelines for interpreting PbB test results in children. If conditions at a site change dramatically, retesting exposed individuals may be necessary to determine the impact of altered conditions on PbB levels. The health assessor should pay attention to potential seasonal variation of exposure conditions; the half-life of lead in the blood stream; and limitations of any screening methods used, especially study design (power and representativeness of blood and soil samples), should be evaluated.

The health assessor should use caution in drawing conclusions when only one or a few soil samples from a site have been analyzed. Depending on the uniformity of lead distribution at a site, a single soil sample may significantly overestimate or underestimate the average lead concentration at a site. The impact of exposure to lead-contaminated soil on PbB levels is also influenced by the chemical and physical form of the lead.

ATSDR Recommendations

At all sites, ATSDR recommends that health assessors evaluate the need for any follow-up health activities. This effort should be coordinated with other health agencies, as appropriate, to ensure that all aspects of a site that impact the health of the community are evaluated. The recent statement by the CDC, Preventing Lead Poisoning in Young Children, provides guidance and identifies community prevention activities that should be triggered by PbB levels > or = 10 mcg/dl.

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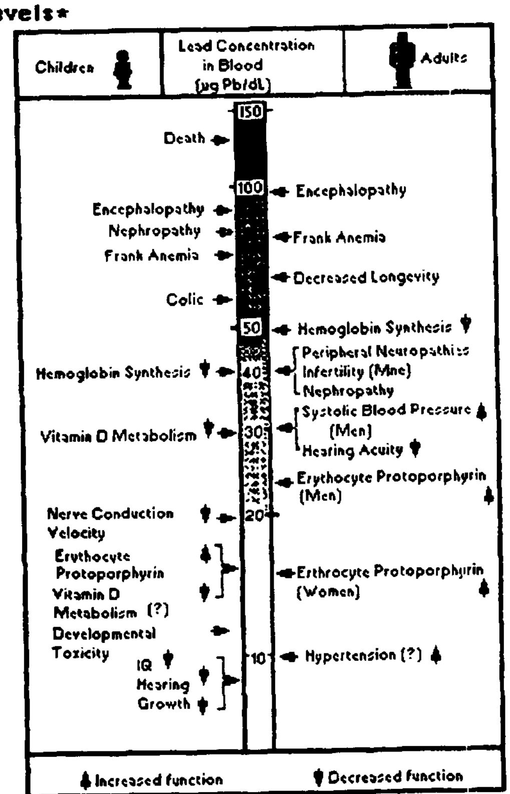
Figure 1

Effects Of Inorganic Lead On Children And Adults

Figure 1. Effects of Inorganic lead in children and adults – lowest observable adverse effect levels*



*(Adapted from case studies in Environmental Medicine: Lead Toxicity, 1990, ATSDR)

Figure 2

Soil Lead And Other Media Exposure

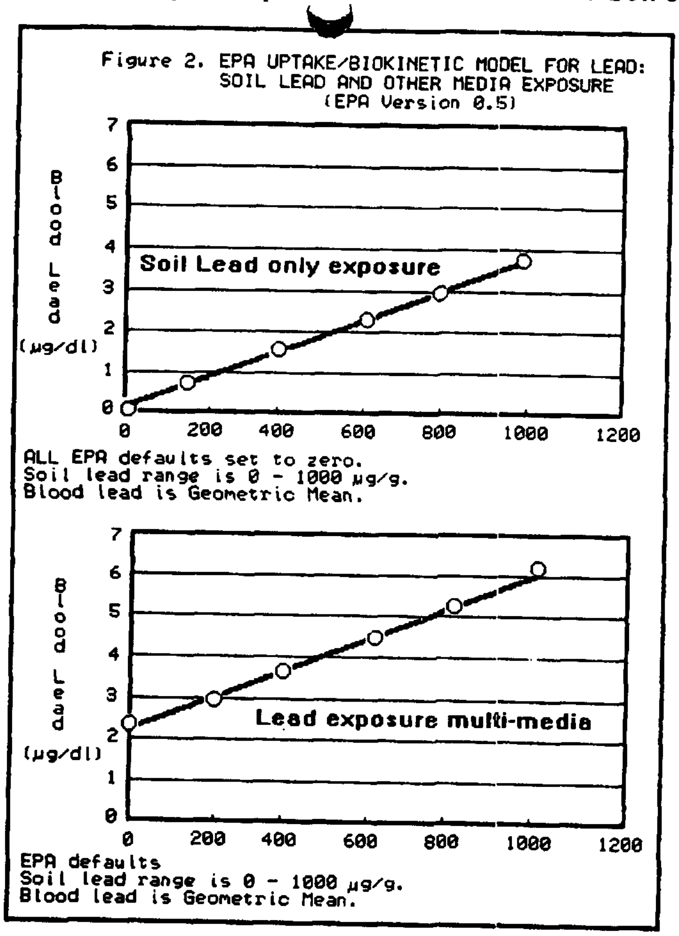
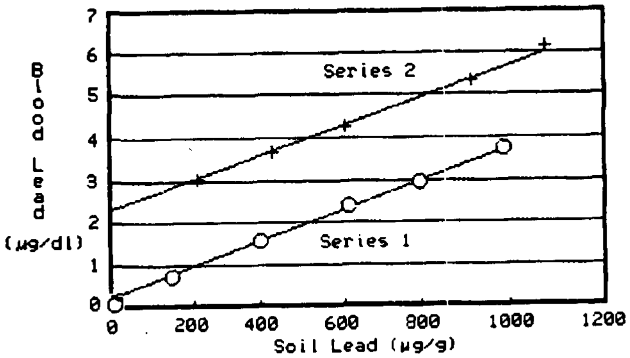


Figure 3

Blood And Soil Lead Correlation

Figure 3. EPA UPTAKE/BIOKINETIC MODEL FOR LEAD: BLOOD AND SOIL LEAD CORRELATION

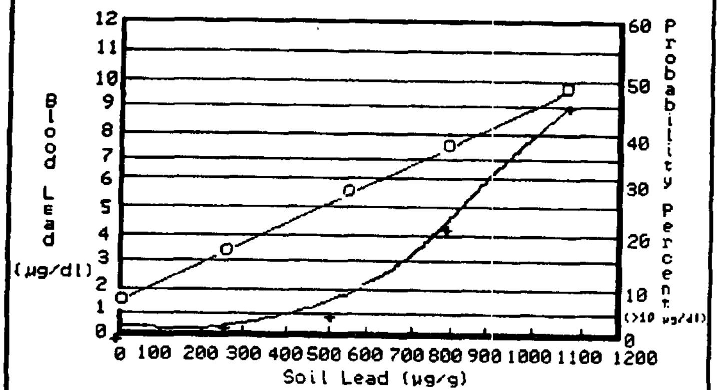


Legend:	Series 1	Series 2
AIR CONCENTRATION:	0.000 µg Pb/m^3	0.200 µg Pb/m^3
DIET Intake:	0.00 µg/day	6.79 µg/day
DRINKING WATER:	0.000 L/day 0.0 µg/L	0.52 L/day 4µg/L
SOIL:	0-1000 µg Pb/g	0-1000 µg Pb/g
HOUSE DUST:	0.0 µg Pb/g	200.0 ug Pb/g
PAINT Intake:	0.00 µg Pb/day	0.00 µg Pb/day
MATERNAL CONTRIBUTION: Maternal Blood Conc.	Infant Model 0.00 µg Pb/dL	Infant Model 7.50 µg Pb/dL
AGE OF CHILDREN:	24-36 months	24-36 months

Figure 4

Blood Lead And Percent > 10 mcg/dl

Figure 4. EPA UPTAKE/BIOKINETIC MODEL FOR LEAD: BLOOD LEAD AND PERCENT > 10 UG/DL



RUN NO.	SOIL CONC. (µg/g)	% ABOVE (10 µg/dl)	% BELOW	G. MEAN (µg/dl)
1	0	0	100	1.26
2	250	0.10	99.90	3.41
3	500	4.46	95.54	5.57
4	750	21.38	78.62	7.73
5	1000	45.38	54.62	9.89

NOTE: Soil/dust lead level ratio set arbitrary at 1:1 for all soil concentrations. For example, an entry of 250 µg/g for alead in soil concentration would be matched with a reading of 250 µg/g for the level of lead in house dust in the EPA Model. The model allows for a change in the ratio, if specific field data are available. The default for lead in paint in these runs is zero. Absorption methodology is non-linear active-passive. Infant model used for maternal contribution. EPA default values (Version 0.5) used for air concentration, diet, and drinking water. Age of children is 24-36 months. The model is still being validated by the Environmental Protection Agency.

Table 8. Interpretation of blood lead test results and follow-up activities: Class of child based on blood lead concentrations

Class	Blood lead concentration (µg/dl	Comment
I	= or < 9	A child in Class I is not considered to be lead- poisoned
IIA	10-14	Many children (or a large proportion of children) with blood lead levels in this range should trigger community-wide childhood lead poisoning prevention activities. Children in this range may need to be screened more frequently.
IIB	15-19	A child in Class IIB should receive nutritional and educational interventions and more frequent screening. If the blood lead levels persist in this range, environmental investigation and intervention should be done.
III	20-44	A child in Class III should receive environmental evaluation and remediation and a medical evaluation. Such a child may need pharmacologic treatment of lead poisoning.

IV	45-69	A child in Class IV will need both medical and environmental interventions, including chelation therapy.
V	= or > 70	A child in Class V lead poisoning is a **medical emergency.** Medical and environmental management must begin **immediately**

(Adapted from CDC, Preventing Lead Poisoning in Young Children. A Statement by the Centers for Disease Control, October, 1991. U.S. Department of Health aand Human Services/Public Health Service)

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